

September 29, 2019

Department of Agricultural Economics
Texas A&M University
2124 TAMU
College Station, TX 77843-2124

Dear Texas A&M University Search Committee Members,

I have a strong interest in the Assistant Professor – Agricultural Marketing and Quantitative Analysis at Texas A&M University. As a current economics Ph.D. candidate at West Virginia University (WVU), writing my dissertation under Dr. Joshua Hall, my dissertation defense is scheduled for November 2019. Particular to your position, I want to highlight that I have taught the Ph.D. Math Econ Boot Camp twice and the undergraduate Math Econ twice at WVU. I have also been the teaching assistant of Ph.D. Econometrics and have taught the undergraduate Statistics course. I believe all the experience will help with my teaching of quantitative analysis at your department. My research is also heavily relied on quantitative methods, especially Machine Learning methods. In the rest of this letter, I detail aspects of my research and teaching experience that I believe fit well with your department.

I have pursued an active research agenda at WVU. My main research interest is applied microeconomics, with a focus on public economics, urban and regional economics, and applied machine learning. I have published 11 peer-reviewed journal articles. Meanwhile, I have three papers under review and several working papers close to completion. I also want to mention my job market paper, “The Political Economy of Historic Districts: The Private, the Public, and the Collective.” In this paper, I study the endogenous process of historic district designation and how it affects residents’ utility and housing price. I develop a theoretical model focusing on the collective action and public goods characteristics of historic district designation. The theoretical predictions suggest that the collective action cost impedes the designation, while achieving a designation ultimately leads to an in-equilibrium where marginal benefit is higher than marginal cost; meanwhile, only historic districts of publicly accessible structures have a positive externality. Empirical evidence from Denver is consistent with the theory.

As my job market paper represents, my research seeks to advance public economics (2018, *European Journal of Political Economy*; 2019, *Economics of Governance*; forthcoming, *Journal of Institutional Economics*), urban and regional economics (working paper on urban open space and housing price), and their intersections (2018, *The Review of Regional Studies*; forthcoming, *Public Choice*). To better answer economic questions, I also employ machine learning methods to analyze text (2019, *Applied Economics*) and images (working paper on face recognition, machine learning, and income premium). For more details regarding my research, please see my CV.

I enjoy teaching and mentoring students. Thanks to the teaching opportunities at West Virginia University, I have taught several undergraduate courses, all with excellent student evaluations. I have co-taught the Ph.D. Math Econ Boot Camp twice, and I have been invited to teach a one-week summer course at the University of Science and Technology of China. I have supervised six undergraduate students in research projects, where they learn how to find the related literature for a research question, how to collect and analyze the data with software, and how to conduct the economic analysis. For more details, please see the sections in my CV.

I am also contributing to the academic community in many other ways. I have participated in multiple conferences per year, been invited to give multiple seminar presentations at other universities, and organized many paper sessions at conferences. I have contributed 18 anonymous referee reports for academic journals. In my research projects, I have collaborated with 15 scholars, including inter-institution and interdisciplinary collaborations. Following my graduation, I look forward to continuing to be a good colleague and contributor to the academic community.

I believe, if offered the opportunity, I can positively contribute to the Texas A&M University community as a researcher, teacher, and colleague. Enclosed, you will find my CV and other materials. Three letters of recommendation will be sent separately. I will be attending the ASSA/AEA meetings in San Diego, CA, and I would appreciate the opportunity to interview with your department at the meetings. Please feel free to contact me at 404-632-6612 or via email at ygzhou@mix.wvu.edu. Thank you for your time and consideration.

Sincerely,



Yang Zhou

Yang Zhou

Department of Economics
West Virginia University
1601 University Ave., PO Box 6025
Morgantown, WV, 26506-6025

Updated: September 28, 2019
ygzhou@mix.wvu.edu
www.yangzhouecon.com
(+1) 404-632-6612

Education

Ph.D. in Economics, West Virginia University, United States, 2015-2020 (expected)
M.A. in Economics, West Virginia University, United States, 2015-2019
M.A. in Economics, King Juan Carlos University, Spain, 2013-2014
B.S. in Economics, University of Science and Technology of China (*Outstanding Graduate*), China, 2009-2013

Research Interests

Public Economics, Urban and Regional Economics, Applied Machine Learning

Job Market Paper

“The Political Economy of Historic Districts: The Private, the Public, and the Collective.”

Refereed Paper Published

“Horizontal ‘Checks and Balances’ in the Socialist Regime: The Party Chief and Mayor Template.” (*forthcoming*) ***Journal of Institutional Economics***.
“The Economic Impact of City-County Consolidations: A Synthetic Control Approach.” (with Joshua Hall and Josh Matti) (*forthcoming*) ***Public Choice***.
“Superstition and Real Estate Prices: Transaction-level Evidence from the US Housing Market.” (with Brad Humphreys and Adam Nowak) (2019) ***Applied Economics*** 51(26): 2818-2841.
“A Test of the Institutionally Induced Equilibrium Hypothesis: On the Limited Fiscal Impact of Two Celebrity Governors.” (with Roger Congleton) (2019) ***Economics of Governance*** 20(2): 103-128.
“The Impact of Marketization on Entrepreneurship in China: Recent Evidence.” (with Joshua Hall) (2019) ***American Journal of Entrepreneurship*** 12(1): 31-55.
“Do Ideology Movements and Legal Intervention Matter: A Synthetic Control Analysis of the Chongqing Model.” (2018) ***European Journal of Political Economy*** 51: 44-56.
“Regionalization and Consolidation of Municipal Taxes and Services.” (with Joshua Hall and Joshua Matti) (2018) ***The Review of Regional Studies*** 48(2): 245-262.
“The Political Economy of Brexit: Explaining the Vote.” (with Joshua Matti) (2017) ***Applied Economics Letters*** 24(16): 1131-1134.
“The Sinuous Dragon: Economic Freedom and Economic Growth in China.” (with Joshua Hall) (2017) ***Academy of Economics and Finance Journal*** 8: 19-24.
“Why Did China’s Population Grow So Quickly?” (with David Howden) (2015) ***The Independent Review*** 20(2): 227-48. (*O.P. Alford III Prize in Political Economy, Mises Institute*)
“China’s One-Child Policy: Some Unintended Consequences.” (with David Howden) (2014) ***Economic Affairs*** 34(3): 353-69.

Under Review

“Horizontal ‘Checks and Balances’ in Chinese Bureaucratic System: Prefecture City Level Evidence.”
“Attractive or Aggressive? A Face Recognition and Machine Learning Approach for Estimating Returns to Visual Appearance.” (with Guodong Guo, Brad Humphreys, and Mohammad Nouyed)
“More Economic Freedom, More Corruption? Evidence from China.” (with Zhipeng Ye)

Work in Progress

“Income Inequity and Regime Changes: Evidence in the US.” (with Peter Calcagno and Alex Marsella)
“Urban Open Space Heterogeneity, Proximity, and Residential Housing Prices.” (with Brad Humphreys)
“The Economic Impact of Public Official Corruption Scandal: A Synthetic Control Analysis.” (with Alberto Batinti and Bingyong Zheng)
“Was Milton Friedman Right to be Impressed? Government Spending and National Statistics in Hong Kong prior to 1971.” (with Jamie Bologna Pavlik and Vincent Geloso)

Teaching Experience

West Virginia University – Instructor of Record
Econ Ph.D. Math Econ Boot Camp (Co-instructor), Summer 2018 (4.85/5), Summer 2019 (4.56/5)
Econ 202, Principles of Macroeconomics, Spring 2020 (Online, Scheduled)
Econ 497, Research, Spring 2019 (3 students), Fall 2019 (3 students, In progress)

Econ 421, Intro Mathematical Economics, Fall 2018 (4.65/5), Fall 2019 (In progress)
Econ 302, Intermediate Macro-Economic Theory, Summer 2018 (4.37/5), Spring 2019 (4.71/5)
Econ 225, Elementary Business and Economics Statistics, Spring 2018 (Large section, 4.28/5)
Econ 201, Principles of Microeconomics, Summer 2017 (4.50/5)

University of Science and Technology of China

Principles of Economics, Summer 2018 (One-week course, Invited)

Teaching Assistant

West Virginia University

Ph.D. Econometrics II, Fall 2017

Elementary Business and Economic Statistics (Large section), Fall 2015, Spring 2016

Selected Conference and Seminar Presentations

- 2019 American Economic Association/Allied Social Sciences Association (Poster), North American Meetings of the Regional Science Association International (Scheduled), Association of Private Enterprise Education (Session Organizer & Chair), Public Choice Society, Southern Economic Association (Session Organizer & Chair, Scheduled), Temple University (Invited, Scheduled), University of Pittsburgh (Invited, Scheduled), Urban Economics Association (Scheduled), Western Economic Association International
- 2018 Midwest Graduate Student Summit on Applied Economics and Regional and Urban Studies (Conference Co-organizer), Public Choice Society, Southern Economic Association, The Conference to Celebrate János Kornai's Research and 90th Birthday, Weber State University (Invited), Western Economic Association International (Session Organizer & Chair), Zhejiang University of Finance and Economics (Invited)
- 2017 American Real Estate Society, Public Choice Society, Ratio Institute, Southern Economic Association, University of Science and Technology of China (Invited)
- 2016 Institute for Humane Studies, International Conference of Prices & Markets, Association of Private Enterprise Education

Fellowships, Awards, and Honors

Center for Free Enterprise Fellowship, West Virginia University, 2015-Present

Humane Studies Fellowship, Institute for Humane Studies, 2016-Present

Adam Smith Fellowship, George Mason University, 2019-2020

IHS PhD Scholarship, Institute for Humane Studies, 2015-2016

University Outstanding Thesis, University of Science and Technology of China, 2013

Bronze Prize of Outstanding Student Scholarship, University of Science and Technology of China, 2011, 2012

Journal Referee

Applied Economics Letters (1), *Contemporary Economic Policy* (5), *European Journal of Political Economy* (1), *Growth and Change* (1), *Habitat International* (1), *Journal of Asian and African Studies* (1), *Journal of Entrepreneurship and Public Policy* (2), *Journal of Institutional Economics* (3), *Journal of Leisure Research* (1), *Journal of Regional Analysis and Policy* (1), *Procesos de Mercado* (1)

Software

R, Stata, L^AT_EX, Python, QGIS, ArcGIS

Languages

Chinese (Native, Standard & Lower Yangtze Mandarin), English (Fluent), Spanish (Conversational)

References

Joshua C. Hall (*Dissertation Chair*)
West Virginia University
Joshua.Hall@mail.wvu.edu
304-293-7870

Brad R. Humphreys
West Virginia University
Brad.Humphreys@mail.wvu.edu
304-293-7871

Roger D. Congleton
West Virginia University
Roger.Congleton@mail.wvu.edu
304-293-7866

Peter J. Boettke
George Mason University
pboettke@gmu.edu
703-993-1149

Michael C. Munger
Duke University
munger@duke.edu
919-660-4301

800151490 Yang Zhou
Sep 08, 2019 02:07 pm

Display Transcript



This is NOT an official transcript. Courses which are in progress may also be included on this transcript.

[Institution Credit](#) [Transcript Totals](#) [Courses in Progress](#)

Transcript Data

STUDENT INFORMATION

Name : Yang Zhou

Curriculum Information

Current Program

Doctor of Philosophy

College: Business and Economics

Major: Economics

Secondary

Master of Arts

College: Business and Economics

Major: Economics

This is NOT an Official Transcript

DEGREES AWARDED

Degree Master of Arts **Degree Date:** May 12, 2019

Awarded:

Curriculum Information

Primary Degree

College: Business and Economics

Major: Economics

INSTITUTION CREDIT [-Top-](#)

Term: Fall 2015

Academic Standing:

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points
ECON	701	GR	Adv Micro-Economic Theory 1	A+	4.000	16.00
ECON	702	GR	Adv Macro-Economic Theory 1	A	3.000	12.00
ECON	721	GR	Mathematical Economics	A+	3.000	12.00

Term Totals (Graduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	10.000	10.000	10.000	10.000	40.00	4.00
Cumulative:	10.000	10.000	10.000	10.000	40.00	4.00

Unofficial Transcript

Term: Spring 2016**Academic Standing:**

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points
ECON	711	GR	Adv Micro-Economics Theory 2	A	4.000	16.00
ECON	712	GR	Adv Macro-Economic Theory 2	A	3.000	12.00
ECON	723	GR	Dynamic Methods of Economics	A	1.000	4.00
ECON	725	GR	Econometrics 1	A	3.000	12.00

Term Totals (Graduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA Points
Current Term:	11.000	11.000	11.000	11.000	44.00	4.00
Cumulative:	21.000	21.000	21.000	21.000	84.00	4.00

Unofficial Transcript

Term: Fall 2016**Academic Standing:**

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points
ECON	726	GR	Econometrics 2	A	3.000	12.00
ECON	741	GR	Public Economics 1	A	3.000	12.00
ECON	762	GR	Advanced Urban Economics	A	3.000	12.00

Term Totals (Graduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA Points
Current Term:	9.000	9.000	9.000	9.000	36.00	4.00
Cumulative:	30.000	30.000	30.000	30.000	120.00	4.00

Unofficial Transcript

Term: Spring 2017**Academic Standing:**

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points
ECON	727	GR	Econometrics 3	A	3.000	12.00
ECON	742	GR	Public Economics 2	A	3.000	12.00
ECON	761	GR	Advanced Regional Economics	A+	3.000	12.00

Term Totals (Graduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA Points
Current Term:	9.000	9.000	9.000	9.000	36.00	4.00
Cumulative:	39.000	39.000	39.000	39.000	156.00	4.00

Unofficial Transcript

Term: Fall 2017**Academic Standing:**

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points
ECON	709	GR	Research Design/Methodology	A	1.000	4.00
ECON	765	GR	Health Economics 1	A	3.000	12.00
ECON	795	GR	Independent Study	P	5.000	0.00

Term Totals (Graduate)

Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA Points
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Current Term:	9.000	9.000	9.000	4.000	16.00	4.00
Cumulative:	48.000	48.000	48.000	43.000	172.00	4.00

Unofficial Transcript

Term: Spring 2018**Academic Standing:**

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points
ECON	709	GR	Research Design/Methodology	P	1.000	0.00
ECON	793A	GR	SPTP: Economics of Prof Sports	A	3.000	12.00
ECON	795	GR	Independent Study	P	5.000	0.00

Term Totals (Graduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	9.000	9.000	9.000	3.000	12.00	4.00
Cumulative:	57.000	57.000	57.000	46.000	184.00	4.00

Unofficial Transcript

Term: Summer 2018**Academic Standing:**

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points
ECON	797	GR	Research	S	1.000	0.00

Term Totals (Graduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	1.000	1.000	1.000	0.000	0.00	0.00
Cumulative:	58.000	58.000	58.000	46.000	184.00	4.00

Unofficial Transcript

Term: Fall 2018**Academic Standing:**

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points
ECON	709	GR	Research Design/Methodology	P	1.000	0.00
ECON	797	GR	Research	S	8.000	0.00

Term Totals (Graduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	9.000	9.000	9.000	0.000	0.00	0.00
Cumulative:	67.000	67.000	67.000	46.000	184.00	4.00

Unofficial Transcript

Term: Spring 2019**Academic Standing:**

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points
ECON	709	GR	Research Design/Methodology	P	1.000	0.00
ECON	797	GR	Research	S	8.000	0.00

Term Totals (Graduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA
Current Term:	9.000	9.000	9.000	0.000	0.00	0.00

Cumulative:	76.000	76.000	76.000	46.000	184.00	4.00
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Unofficial Transcript

Term: Summer 2019**Academic Standing:**

Subject	Course	Level	Title	Grade	Credit Hours	Quality Points
ECON	797	GR	Research	S	1.000	0.00

Term Totals (Graduate)

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA Points
Current Term:	1.000	1.000	1.000	0.000	0.00	0.00
Cumulative:	77.000	77.000	77.000	46.000	184.00	4.00

Unofficial Transcript

TRANSCRIPT TOTALS (GRADUATE) -Top-

	Attempt Hours	Passed Hours	Earned Hours	GPA Hours	Quality Points	GPA Points
Total Institution:	77.000	77.000	77.000	46.000	184.00	4.00
Total Transfer:	0.000	0.000	0.000	0.000	0.00	0.00
Overall:	77.000	77.000	77.000	46.000	184.00	4.00

Unofficial Transcript

COURSES IN PROGRESS -Top-**Term: Fall 2019**

Subject	Course	Level	Title	Credit Hours
ECON	709	GR	Research Design/Methodology	1.000
ECON	797	GR	Research	8.000

Unofficial Transcript

RELEASE: 8.7.1

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September 25, 2019

To the recruiting committee,

I am writing to give you with my highest possible recommendation for Yang Zhou, who is applying for a position at your institution. As his dissertation chair and co-author on a number of published papers, I have had the opportunity to work closely with him for the past five years. I believe that Yang would be an absolutely outstanding hire for any department in economics or public policy that values research and strong teaching. Hopefully my letter can convey the greater enthusiasm I have for Yang as a scholar and professor in the future.

Let me begin by briefly summarizing his current situation and our relationship. Yang is entering his fifth year of WVU's doctoral program in economics and will defend his dissertation on November 11, 2019. There is zero doubt in my mind that he will not be successful in his defense given that two-thirds of his dissertation has already been published as solo-authored articles in the *European Journal of Political Economy* and *Journal of Institutional Economics*. Yang could have easily finished in four years as all three of his dissertation chapters were essentially finished at the time of his proposal. Instead, with my encouragement, Yang decided to delay graduation a year in order to continue to develop two entirely new research projects, one of which is his job market paper "The Political Economy of Historic Districts: The Private, the Public, and the Collective." I mention so that you are aware that Yang will have his doctorate in hand when interviewing this winter.

I first got to know Yang when I was recruiting him to attend WVU for his doctorate. One of my former students in another graduate program is a friend of Yang's and suggested he reach out to me. After hearing that Yang attended the University of Science and Technology of China (the country's equivalent of the California Institute of Technology), I was excited for the opportunity to speak but afraid that we would not be able to get him to attend WVU. I then was really afraid when I found out he had a masters degree from Spain, perfect GRE scores, and two journal articles. We quickly established a rapport, however, and he decided to attend WVU over other schools.

Yang wasted little time in advancing rapidly through our doctoral program. Not only did he complete our required coursework in three years, but he also passed all his comprehensive exams on the first attempt. Combined with his intellectual ability and work ethic, this allowed him to progress rapidly in terms of research. In his first year I had him work with me on a couple of minor project in order to learn more about the data and literature in those areas. I often encourage students to do this early on in graduate school as I feel it helps them to get up to speed quicker. My approach to graduate student development explains Yang's research trajectory, beginning with co-authored papers early on in places like the *American Journal of Entrepreneurship* and *Academy of Economics and Finance Journal* and more recent publications at places like *Public Choice*. I mention this as these earlier papers should primarily be viewed as inputs into his later work, not outputs, *per se*.

As soon as Yang got to his field courses in public economics and urban economics his research really took off. Due to a transitional period in our graduate program, during his second-year I taught him in two field courses: Public Economics I and Advanced Regional Economics. Public Economics I is a traditional first public economics course, focusing primarily on public finance topics like public goods, externalities, and taxation, but with several weeks towards the end focusing on new research in public economics more broadly. My purpose in doing so is to expose the students to some cutting edge papers in the field to inspire them to come up with a good idea for their class paper. This is not a full blown paper but is rather what I call a ‘half-baked cake.’ Basically, the paper has all the elements of a paper such as hypothesis, abstract, introduction, literature review, data and methods, but no empirical results. Well imagine my surprise when Yang produced a full draft of “Do Ideology Movemenets and Legal Intervention Matter: A Synthetic Control Analysis of the Chongqing Model.” The paper uses the Synthetic Control Method (SCM) to looks at the effects of the red ideology movement instituted by Bo Xilai , the party chief of the Chinese city of Chongqing from 2007 to 2012. The so-called “Chongqing model” of increased state control and Maoist style campaigns led *Time* to name Xilai as one of the 100 most influential people of 2010. After minimal feedback from me, Yang submitted the paper to the *European Journal of Political Economy*, received and R&R, and successfully completed it, all before finishing his second year of graduate school!

In my public class, I also have students write a short empirical note of about 2,000 words. I do this because I have found that many of our students come in with poor coding skills and I want them to get exposed to data as early as possible. I also require them to co-author, as co-authoring has increasingly become the norm in economics. Yang and another student, Josh Matti, wrote a paper explaining district-level votes in the UK on Brexit, which had just happened. Using a median voter model, they test popular theories regarding why citizens voted to leave the European Union. Their results support the view that economic variables such as unemployment or income growth did not explain votes on Brexit, but demographic variables such the change in racial and religious diversity were positively associated with voting to leave. Again, the paper was submitted to me almost ready to go out the door and I encouraged them to submit to *Applied Economics Letters* while the topic was fresh on people’s minds. During the spring semester of that year, they received an acceptance, giving Yang two publications from his second year coursework before the year was out. Their paper already has 25 citations according to Google Scholar, and with the Brexit exit dragging on I expect that number to continue to rise.

In the spring of his second year he took my graduate field course in Advanced Regional Economics. This was my first time teaching the course, and I set it up to so that the first half of the course involved regional economic models and methods (CGE, I-O, spatial econometrics) and the second half would be topics in regional economics. I required students to write two papers in the course. The first was a co-authored review article on one of the topic areas and the second a co-authored draft paper in that topic area. Yang and Josh decided to write their review article on city-county consolidation. After reviewing the theory and empirical literature in this area, they recognized that while the literature on city-county consolidation was extensive, the only empriical evidence at that time involved structural break tests on time-series. In their paper they proposed using SCM to try to get closer to the causal impact of city-county consolidation on economic development. After the class was done, the three of us worked on the literature review and the SCM paper. The literature review we published in the *Review of Regional Studies* as “Regionalization and Consolidation of

Municipal Taxes and Services.” The SCM paper finds heterogeneous effects of city-county consolidation across three case studies. A big advantage of our Georgia cases is that we used a donor pool of counties that had a failed consolidation referendum to address selection into treatment. This paper is now forthcoming at *Public Choice*.

What has been amazing about Yang’s experience over his short time in our program is how much he has gotten out of every RA assignment, class he has taken, or class he has taught. For example, his recent paper in *Economics of Governance* with Roger Congleton came out of a one-semester research assistant position with Roger. Given how much work Yang accomplished on the project in the one semester, Yang’s role expanded almost immediately from research assistant to co-author. Similarly, Yang’s solo-authored paper on horizontal checks and balances in the Socialist regime at *Journal of Institutional Economics* came out of his second-year public course with Dr. Congleton. I believe that Congleton will speak more about Yang’s role in these projects in his letter. However, I will just note that when someone has so many senior co-authors they are clearly pulling their own weight. And as these are largely class papers, the ideas are entirely Yang’s.

Similarly, Yang’s papers with Brad Humphreys came out of his doctoral courses with him in urban economics and sports economics. His “Superstition and Real Estate Prices” paper in *Applied Economics* with Humphreys and Nowak started as a paper for Brad’s urban class. Being Chinese, Yang noted that many Chinese consider the number 8 to be lucky and 4 unlucky. He and Nowak developed a binomial name classifier – a machine learning approach – to identify buyer ethnicity. They find that Chinese buyers in the U.S. pay a 1-2% premium for addresses including an 8 and a 1% discount for addresses that include a 4. Yang then took the skills he developed regarding machine learning to write an early draft of what became his co-authored working paper “Attractive or Aggressive? A Face Recognition and Machine Learning Approach for Estimating Returns to Visual Appearance.” I can remember when Yang came up with the general idea for this paper. It was during our regular weekly meeting and we were talking about Berggren et al.’s (2019) *Journal of Public Economics* paper on conservative politicians being rewarded for better looks. It is my understanding that this paper is currently under review at the *Review of Economics and Statistics*. Again, it is my understanding that Dr. Humphreys will talk more about this paper and Yang’s contributions in his letter.

At this point a letter writer will typically spend a lot of time going over the candidate’s job market paper. That is certainly appropriate for most candidates, since that is all most job market candidates have in terms of research. In Yang’s case, however, you have a solid track record of solo and co-authored publications that continue to increase in quality. Third year publications in *Applied Economics* and *European Journal of Political Economy*, fourth year publications in *Journal of Institutional Economics* and *Public Choice*, papers under review at *Review of Economics and Statistics* and other top journals. If this track record doesn’t make you want to have a conversation with him, my summary of his job market paper isn’t going to change your mind.

In my opinion, Yang has the same career potential of past stars of our doctoral program at R1 schools like Claudia Williamson (Mississippi State), Tom Garrett (University of Mississippi), Justin Ross (Indiana), and Jamie Bologna Pavlik (Texas Tech). If his vita didn’t say “Ph.D. in Economics, West Virginia University, United States, 2015-2020 (expected)” you would think it was the vita of an extremely productive junior faculty member. Yang has an established research agenda at the intersection of urban and regional economics and public

economics that is reaching high-quality journals like, he has cultivated numerous co-authors from WVU and other institutions, taught eight sections of five courses, mentored undergraduate students in research, refereed 18(!) papers for journals, and been an exemplarily departmental citizen. To be blunt, he will be hit the ground running as an Assistant Professor because he has already been working like one.

Yang's job market paper is a contribution to the literature on the economic effects of historical preservation. In his paper he builds on the literature in three ways. First, he develops a theoretical model of the historic designation process that incorporates the collective action costs of designation. Doing so allows him to explain why some designations take longer than others and why others are never realized, or realized to a much more limited extent. Once collective action costs are taken into account, it becomes clear that we may have a sub-optimal level of historical designation than would exist under different institutional arrangements. Second, he differentiates between the public good characteristics of historical designation and private benefits. Third, he arguably has the best setting to study historical district designation and collective action costs. Denver contains both federally designated national historic districts and a much more stringent local historical district designation process. Using a hedonic model of arms-length housing sales in Denver over a sixteen year period, he finds that larger districts have larger premiums after designation, consistent with the idea that collective action costs increase with group size. His theoretical model also predicts that designation of private homes will not have positive spillovers but designation of public goods such as parks will have positive spillovers. Yang finds empirical evidence using different buffer zones around Denver's historical districts. Finally, his results from a repeat sales model to deal with unobserved characteristics of property confirm his results. This paper came to me almost fully formed and I was extremely impressed with Yang's idea, execution, and thoroughness. He has sent the paper to a number of people in the literature who have given him positive feedback. Given that the work he is building on is published in journals like *Economic Journal* and *Journal of Urban Economics*, I can see his paper landing in journals at that level.

Yang has a number of additional papeprs under review and in progress that I expect to do quite well. I count Yang as having fifteen different co-authors at six different institutions. That is because he is the type of scholar who actively seeks to interest and engage others in research ideas. Having Yang around your institution will have the added benefit of increasing the scholarly productivity of others in the department. His enthusiasm for research is infectious, which is how he has ended up mentoring multiple undergraduate students at WVU in undergraduate research projects. His large number of projects are not only a sign of his productivity and how valued he is as a co-author, they also ensure that his productivity will not slow upon graduation.

At this point, let me turn to teaching. Normally a graduate student with Yang's productivity would be reflective of him being on fellowship, with zero teaching duties. Yang's fellowship caps up his salary but our college policies still require graduate students to teach every semester from the third year onward. As a result, Yang has taught eight sections of five different courses, including some of our most difficulty courses to teach effectively such as Math Econ and Intermediate Macro. Yang's evaluations are fantastic no matter what the course. I have sat in on his Math Econ course and I was impressed with the rapport he had with the 30+ students in the course. His level of preparation for the course was impressive. Yang began by going over the homework, identifying common errors students made and responding to questions about alternative ways to answer particular questions. He then proceeded to his

lecture about how to prove that two vectors are linearly dependent. What was so impressive was that he walked the students through three different types of proofs to show them how there are often different ways to get at the same concept. That approach continued throughout the class, with him asking questions of various students in the class, trying to get them to draw connections across concepts. After observing his class, it is easy to see why Yang gets excellent evaluations. He cares about students, he prepares, and is professional. In addition to the courses he has already taught, I can see him teaching Econometrics, Public Economics, Urban Economics, and Regional Economics at both the undergraduate and graduate levels. Our current first and second-year students raved about his teaching in our Math Boot Camp for incoming graduate students.

Yang's regard for others in the classroom spills over into his service. Perhaps you might consider this to be a mix of the department's service mission and simply being a good colleague. He always attends (and is the only graduate student to regularly ask questions) in our weekly departmental seminar series. In addition to contributing to the departmental environment, Yang is known in the larger profession due to his many conference presentations. It is extremely unusual for a graduate student to have refereed as much as he has, which is a sign of both his productivity and how well he is known. Two years ago he was a co-organizer of the Applied Economics, Regional and Urban Studies (AERUS) conference held at WVU. Comprised of two days of concurrent sessions and two plenary talks, Yang helped organize, fundraise for, and promote the conference. Yang has, with me as co-PI, written grant proposals and he has been very successful in receiving fellowships. Finally, he is always willing to chip in and help out, whether it is reading a paper draft or covering a class for a sick colleague.

Let me end my letter by saying that Yang would simply be a great hire for any school looking to make their program better. He is a strong researcher, an excellent teacher, and a great person in the department. He deserves your strongest consideration. I would be happy to answer any additional questions you may have regarding Yang and his abilities. Please feel free to contact me at 304-293-7870.

Sincerely,

A handwritten signature in black ink, appearing to read "Joshua Hall". The signature is fluid and cursive, with the first name "Joshua" and last name "Hall" clearly distinguishable.

Joshua Hall
Professor of Economics
Chair, Department of Economics
John Chambers College of Business & Economics

1 October 2019

Dear Search Committee:

This letter of reference is for **Yang Zhou** who has applied for your open position. Yang is a fifth year PhD student in the Department of Economics here at West Virginia University. I have known Yang since he enrolled in the PhD program. I am on his dissertation committee and have worked closely with him in both research and teaching. He was my student in two graduate level classes (Urban Economics and Sports Economics). We have several joint research projects in progress and have published two papers together.

Yang's dissertation will be defended by the end of the Spring 2020 semester. His proposal defense is scheduled for early November, but this will be pro-forma. His dissertation is basically complete and either already published or under review.

Yang is an applied microeconomist. His research areas are public economics, urban and regional economics, and political economy. He lists machine learning as one of his research areas and he has excellent skills in this area. Two of the papers I have with Yang ("Superstition and Real Estate Prices: Transaction-level Evidence from the US Housing Market" which was recently published in *Applied Economics* and Attractive or Aggressive? A Face Recognition and Machine Learning Approach for Estimating Returns to Visual Appearance" which, at the time of this writing, is off the desk at the *Review of Economics and Statistics*) both make substantial use of machine learning techniques. In the real estate price paper, this involved training a machine learning model to recognize Chinese names in a data set containing the names of residential property buyers and sellers but no information on ethnicity. In the face recognition paper, this involves training a machine learning model to evaluate facial attractiveness from digital photos using small-scale facial features. In both cases, he did substantial work on the machine learning components of the papers. These skills are amenable to many research topics and will allow him to publish well in the future as he moves to the next stage of his career.

Yang's CV already speaks for itself in terms of his research ability. His sole author papers in the *Journal of Institutional Economics* and the *European Journal of Political Economy* are not flukes. He can and will publish regularly in journals of that quality or higher. He is a very creative and talented applied microeconomist.

Yang's job market paper really highlights his research skills in both public and urban economics. It builds on recent work by Gabriel Ahlfeld and colleagues in the *Economic Journal* and addresses an important and interesting research question in both public and urban economics. The idea behind this paper is entirely Yang's. I have talked with him about the paper since he first came to me with this idea, but I was really just encouraging him, not feeding him ideas. He is already an independent scholar capable of identifying and working solid, clever research ideas.

Historical districts are increasingly common in urban areas and the creation of such districts involves collective action. Yang addresses the collective action component theoretically, extending the analysis in Ahlfeldt et al. (2017) to include collective action costs; the model in Ahlfeldt et al. contains only a social planner; Yang's extension more closely resembles the actual process through which historical districts are created. Yang also develops strong causal evidence that historical districts generate local amenities using a large, geo-coded data set of residential property transaction prices from Denver, Colorado and a difference-in-differences approach. Yang did all the work putting that data set together. His job market paper has a high ceiling, in my opinion. *AEJ: Applied/Policy*, or the *Journal of Urban Economics*. Gabriel Ahlfeld certainly liked the paper.

Yang's body of work shows his skills in working with large data sets, outstanding econometric skills, and ability to independently generate interesting, novel research ideas. Building the data used in his job market paper was a massive undertaking. He has talent for acquiring and working with data. His work on our joint research projects show his outstanding empirical tool kit and ability to collaborate. These skills will translate into a long, successful research career.

Yang has substantial teaching experience, including principles of micro, large section elementary business statistics, and the math boot camp for our incoming PhD students, among other courses. I have not observed Yang's teaching, but his student evaluations are all outstanding. Overall, his teaching is exemplary; if you hire him, you can expect him to excel immediately in the classroom.

Yang is not a native English speaker. He speaks with a slight accent, as any non-native English speaker does. However, his spoken English is excellent and completely understandable. He has taught face-to-face principles and large section business stats here at WVU with no student complaints. We do not put students with poor spoken English in front of undergraduate classes.

On a personal level, Yang has a pleasant, engaging personality and a keen intellect. He is a lively conversationalist and has a wry sense of humor. I find him entertaining and engaging and his substantial experiences living and studying abroad (he got an MA in Spain and speaks decent Spanish) make him interesting. He will be a good colleague and departmental citizen.

Overall, I give Yang my highest recommendation with no reservations. He will be a very successful academic economist. He will independently generate novel research ideas and publish regularly in top field journals. He clearly has the potential to publish in top general interest journals. He will be a valuable, insightful colleague who collaborates with others in his department. His research has already moved well beyond his dissertation. He has a number of papers under review and in process that are not part of his dissertation. He will hit the ground running, in terms of research, and continue to publish papers in high-quality journals from his first day on campus.

In my opinion, Yang's research ability compares favorably with the best PhDs WVU has produced in recent years. His ceiling is similar to Justin Ross, Associate Professor in the School of Public and Environmental Affairs at Indiana University, Tom Garrett, Associate Professor in the Department of Economics at the University of Mississippi, and Claudia Williamson, Associate Professor in the Department of Economics at Mississippi State University. He has the ability to get tenure in an economics department with high, serious research expectations that also values teaching.

Please do not hesitate to contact me if you have additional questions about Yang, via email (brhumphreys@mail.wvu.edu) or phone (304-293-7871).

Yours,



Brad R. Humphreys

Professor
Benedum Distinguished Scholar
West Virginia University, Department of Economics
Editor-in-Chief, *Contemporary Economic Policy*