# BRIAN HESEUNG KIM

bkim@commonapp.org • www.brhkim.com

# **EDUCATION**

<ul> <li>University of Virginia – Charlottesville, VA</li> <li>Ph.D. in Education Policy at the School of Education</li> <li><u>Dissertation</u>: "Applying Data Science Techniques to Promote Equity and Mobility in Education and Public Policy"</li> <li><u>Committee</u>: Benjamin L. Castleman, Daphna Bassok, Vivian C. Wong, Brian Wright</li> </ul>	2022			
<ul> <li>University of Virginia – Charlottesville, VA</li> <li>M.P.P. from the Frank Batten School of Leadership and Public Policy</li> </ul>	2019			
<ul> <li>Bowdoin College – Brunswick, ME</li> <li>B.A. in English and Economics with Teaching and Music Minors</li> <li>Maine State Teacher Certification in English and Social Studies</li> </ul>	2013			
FELLOWSHIPS, AWARDS, & HONORS				
Association for Education Finance and Policy – Gilbert, AZ  • Jean Flanigan Outstanding Dissertation Award Honorable Mention	2023			
National Academy of Education and Spencer Foundation – Washington, DC  NAEd/Spencer Dissertation Fellowship Recipient (\$27,500; highly selective)	2021 – 2022			
<ul> <li>University of Virginia School of Education – Charlottesville, VA</li> <li>IES Pre-Doctoral Fellowship - Virginia Education Sciences Training (\$30,000/yr)</li> <li>Member of Pi Alpha Alpha Honor Society for Public Affairs &amp; Administration</li> </ul>	2017 – 2021 2018			
Stanford University and University of California, Berkeley – Virtual  Member of Bay Area Summer Institute in Computational Social Science cohort (selective)	2020			
American Enterprise Institute – Washington, DC  Member of Education Policy Academy graduate student cohort (selective)	2019			
<ul> <li>Bowdoin College – Brunswick, ME</li> <li>Snow Family Teacher Scholar Fellowship</li> <li>Robert L. M. and Nell G. Ahern Scholarship</li> <li>Sarah and James Bowdoin Scholar (Dean's list)</li> <li>Maine Community Service Fellowship (selective)</li> </ul>	2014 2013 2013 2012			

### **GRANTS**

Bill & Melinda Gates Foundation. "Test-Optional Admissions Policy Equity Outcomes – Examining Bias and Inequality in Non-Standardized Components." Co-PI with Julie J. Park, OiYan Poon, Kelly Rosinger, and Dominique Baker. \$1,424,752. 2021-2023.

Ascendium Education Group. "Career Advising Tools and Outreach for Low-Income College Graduates - Planning Phase." Co-PI with Benjamin L. Castleman. \$268,157. 2021-2022.

#### RESEARCH ARTICLES

### Peer-Reviewed Publications

- **Kim, B. H.**, Bird, K.A., Castleman, B.L. (2022). Crossing the Finish Line but Losing the Race? Socioeconomic Inequalities in the Labor Market Trajectories of Community College Graduates. *Education Finance and Policy*. Open-access working paper <u>available online</u>. <a href="https://doi.org/10.1162/edfp\_a\_00392">https://doi.org/10.1162/edfp\_a\_00392</a>
- Rodriguez-Segura, D., **Kim, B. H.** (2021). The Last Mile in School Access: Mapping Education Deserts in Developing Countries. *Development Engineering*, 100064. Open-source codebase <u>available via GitHub</u>. <a href="https://doi.org/10.1016/j.deveng.2021.100064">https://doi.org/10.1016/j.deveng.2021.100064</a>

### Under Review

- Bartanen, B., Kwok, K., Avitabile, A., and **Kim, B. H.** (2023). Why Do You Want to Be a Teacher? A Natural Language Processing Approach. Open-access working paper available online.
- Park, J., **Kim, B. H.**, Wong, N., Zheng, J, Breen, S., Lo, P., Baker, D., Rosinger, K., Nguyen, M. H., & Poon, O. (2023). *Inequality Beyond Standardized Tests: Trends in Extracurricular Activity Reporting in College Applications Across Race and Class*. Open-source codebase <u>available via GitHub</u>. Open-access working paper <u>available online</u>.
- Kim, B. H., Meyer, K., & Choe, A. (2023). Gauging Engagement: Measuring Student Response to a Large-Scale College Advising Field Experiment. Open-source codebase available via GitHub. Working paper available online.

### Working Papers

- **Kim, B. H.**, Park, J. J., Lo, P., Zheng, J., Rosinger, K., Baker, D., Poon, O. A., (2023). *Inequality and College Applications: Examining Letters of Recommendation Submitted by High School Counselors*. Working paper available upon request.
- **Kim, B. H.** (2022). What's in a Letter? Using Natural Language Processing to Investigate Systematic Differences in Teacher Letters of Recommendation. <u>Dissertation manuscript version</u>.

### Technical Reports & Policy Briefs

- Park, J. J., Zheng, J., & Kim, B. H. (2023). Unveiling the Inequalities of Extracurricular Activities in Admissions. Change: The Magazine of Higher Learning, 55(5), 45-54.
- **Kim, B. H.**, Freeman, M., Kajikawa, T., Karimi, H., & Magouirk, P. (2022). *Unpacking Applicant Race and Ethnicity*. Common App Research Briefs. Brief parts one and two available online.
- Kim, B. H., Castleman, B. L., Song, Y., & Choe, A. (2022). New Strategies to Support Career Entry for Community College Graduates: Augmenting Intensive Career Advising Services with a Novel Job Recommendation Algorithm and Machine Learning. Work generously supported by the Ascendium Education Group. Final project report available online. Open-source codebase available via GitHub.

- Kim, B. H. (2021). Supporting Students at Any Cost? Examining the Dynamics of Teacher Out-of-Pocket Spending, Student Demographics, and Teacher Autonomy. Replication code and pre-analysis plan available via GitHub. Technical report available online.
- Castleman, B.L., Bird, K.A., **Kim, B. H.** (2019). Pathways to Success: Analyzing Program-level Heterogeneity in Broad Labor Market Outcomes for a State Community College System. Manuscript available on request.

#### **INVITED TALKS**

- Baker, T., **Kim, B. H.**, Lombardi, M., Olson, G., Pina, M. (2023, June). *Application Integrity in the AI Era.* Invited panel discussion at the annual Common App Illuminate conference.
- **Kim, B. H.** (2021, November). What's in a Letter? Investigating the Prevalence of Systemic Differences in Teacher Letters of Recommendation. Invited research presentation for the Bowdoin College Admissions reader training workshop.
- Bruno, P., Doromal, J., Husain, A., **Kim, B. H.**, Murray, B. (2021, October). *The Hidden Curriculum of the Job Market*. Invited panel discussion for the Association of Education Finance and Policy Scholars of Color series (virtual).
- Kim, B. H., Li, J., Radiyat, M., Rhue, L. A. (2021, March). *Data & Assumptions*. Invited panel discussion for the DonorsChoose Brownbag Seminar series (virtual).
- Kim, B. H. (2020, June). Assessing the Role of Class Size Restrictions in Mitigating Community College Student COVID-19 Exposure through Student Network Analysis. Invited research presentation for the Assistant Vice Chancellor for Research of the Virginia Community College System (virtual).
- Castleman, B.L., **Kim, B. H.** (2020, April). *Using Data Science to Address Critical COVID-19 Workforce Needs in Virginia*. Invited research discussion for the Frank Batten School of Leadership and Public Policy "Expert Chat" Series (virtual).
- Finnegan, C., **Kim, B. H.**, Wong, V.C., Wright, B. (2019, November). *Data & Education*. Invited panel discussion at 5<sup>th</sup> Annual University of Virginia School of Data Science Datapalooza, Charlottesville, VA.
- Kim, B. H. (2019, May). Pathways to Success: Analyzing Program-level Heterogeneity in Broad Labor Market Outcomes for a State Community College System. Invited research presentation to the Virginia Community College System Academic and Student Affairs Council Subcommittee on Institutional Research, Richmond, VA.

#### **CONFERENCE PRESENTATIONS**

- Kim, B. H., Park, J. J., Lo, P., Zheng, J., Rosinger, K., Baker, D., Poon, O. A., (2023, August). *Inequality and College Applications: Examining Letters of Recommendation Submitted by High School Counselors.* Paper presentation at Annual Conference of American Sociological Association, Philadelpha, PA.
- Park, J., Kim, B. H., Wong, N., Lo, P., Breen, S., Nguyen, M. H., Baker, D., Rosinger, K., Zheng, J. (2022, November). *Inequality beyond Standardized Tests: Understanding How Extracurricular Activities Vary Across Race, Socioeconomic Status, and High School Type.* Paper presentation at Annual Conference of Association for the Study of Higher Education, Las Vegas, NV.

- **Kim, B. H.** (2022, March). What's in a Letter? Using Natural Language Processing to Investigate Systematic Differences in Teacher Letters of Recommendation. Paper presentation at 47<sup>th</sup> Annual Conference of Association of Education Finance and Policy, Denver, CO.
- Kim, B. H., Meyer, K., Choe, A. (2021, March). Using Natural Language Processing to Investigate Treatment Variation in Education: Evidence from a Large-Scale College Advising Field Experiment. Paper presentation at 46<sup>th</sup> Annual Conference of Association of Education Finance and Policy, Virtual.
- **Kim, B. H.**, Meyer, K., Choe, A. (2020, November). *Do College Advising Styles Matter? Applying Natural Language Processing to Understand Treatment Variation*. Paper presentation at 42<sup>nd</sup> Annual Conference of Association for Public Policy Analysis and Management, Virtual.
- Rodriguez-Segura, D., **Kim, B. H.** (2020, September). Traversing the Last Mile in School Enrollment: Using GIS Data to Identify Education Deserts in Developing Countries. Paper presentation accepted at 11<sup>th</sup> Annual University of Virginia Hunter Student Research Conference, Charlottesville, VA.
- **Kim, B. H.**, Castleman, B.L., Bird, K.A. (2020, March). Crossing the Finish Line but Losing the Race: Socioeconomic Inequalities in Labor Market Trajectories Among Community College Graduates. Paper presentation at 45<sup>th</sup> Annual Conference of Association of Education Finance and Policy, Virtual.
- Castleman, B.L., Bird, K.A., **Kim, B. H.** (2019, March). *Pathways to Success: Analyzing Program-level Heterogeneity in Broad Labor Market Outcomes for a State Community College System.* Paper presentation at 44<sup>th</sup> Annual Conference of Association of Education Finance and Policy, Kansas City, MO.

### RESEARCH EXPERIENCE

# The Common Application, Inc. – Arlington, VA

2021 - Present

Director of Data Science, Research, and Analytics, Data Analytics and Research Team Primary research projects:

- Improving access to the postsecondary application process for low-income students with a targeted school counselor informational intervention
- Disaggregating trends in application behaviors, individual resources, and college readiness among detailed racial/ethnic background groups within standard race/ethnicity categories
- Expanding organizational capacity for large-scale natural language processing analyses on student applications
- Refining data warehouse ETL processes to improve robustness, sustainability, workflow, and data integrity
- Incorporating public education data sets into internal data warehouse to facilitate internal and external research

# University of Maryland, College Park - College Park, MD

2021 – Present

Visiting Faculty Specialist, College of Education

Primary research projects:

- Examining disparities in college applicants' reporting of extracurricular leadership and awards
- Analyzing high school counselor letters of recommendation to identify systemic differences in language

# University of Virginia School of Education – Charlottesville, VA

2017 - 2022

Graduate Research Assistant, EdPolicyWorks and Nudge<sup>4</sup> Solutions Lab

Primary research projects:

- What's in a letter? Using natural language processing to investigate the prevalence of systemic differences in teacher letters of recommendation for postsecondary applications
- New strategies to support career entry for community college graduates: Augmenting intensive career advising services with a novel job recommendation algorithm and machine learning

- Can predictive analytics improve the efficiency of high-cost interventions? Evidence from an intensive college advising program
- Assessing the role of class size restrictions in mitigating community college student COVID-19 exposure through network analysis
- Exploring heterogeneous treatment effects with causal forests: Evidence from a large-scale nudge experiment

# **DonorsChoose** – New York, NY

2020 - 2021

Data Science Fellow, Data Science and Analytics Team

Primary research projects:

- Supporting Students at Any Cost? Examining the dynamics of teacher out-of-pocket spending, student demographics, and teacher autonomy
- Developing mission-oriented and data-driven equity metrics for a nation-wide school fundraising platform
- Measuring project and fundraising success among higher- and lower-resourced schools across ten states

# Virginia Department of Education - Richmond, VA

2019

Research Intern, Office of Research and Office of Equity and Community Engagement Primary research projects:

- Implementing modern visualization techniques to improve the accessibility and utility of ESSA-mandated school accountability dashboards
- Investigating new metrics to better understand racial equity in education throughout Virginia

# Senator George J. Mitchell Scholarship Research Institute - Portland, ME

2012 - 2013

Community Action Fellow / Research Intern

Primary research projects:

- Assessing the state of higher education access and achievement across Maine high schools using Maine DOE and National Student Clearinghouse data (annual state report)
- Visualizing the Institute's mission, student demographics, and impact on academic outcomes for stakeholders

#### **TEACHING EXPERIENCE**

### University of Virginia - Charlottesville, VA

uled 2021
2019

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### **COMMUNITY & PROFESSIONAL SERVICE**

#### Reviewer

 Conference Proposals: Association for Public Policy Analysis and Management, Association for Education Finance and Policy, Hunter Student Research Conference

Introductory course on game theory and behavioral economics

 Manuscripts: Education Finance and Policy, Economics of Education Review, AERA Open, Nature: Humanities and Social Sciences Communications

Bowdoin College – Brunswick, ME	
<ul> <li>Regional Admissions Volunteer Organization, Regional Student Interviewer</li> </ul>	2017 – Present
<ul> <li>Bowdoin College Alumni Fund, Class Fundraising Agent</li> </ul>	2013 – Present
University of Virginia School of Education - Charlottesville, VA	
<ul> <li>Curry Student Travel Fund, Committee Co-chair</li> </ul>	2019 - 2021
<ul> <li>EdPolicyWorks Graduate Student Office, Community Coordinator</li> </ul>	2018 - 2021
■ EdPolicyWorks Graduate Student Office, Methodology Workshop Coordinator	2018 - 2021
■ Curry Common Read, EdPolicyWorks Discussion Co-facilitator	2020
<ul> <li>Summer Undergraduate Research Program, Graduate Student Mentor</li> </ul>	2018
<ul> <li>University of Virginia Frank Batten School of Leadership and</li> <li>Public Policy – Charlottesville, VA</li> <li>Batten Diversity and Inclusion Board, Student Member</li> <li>Virginia Policy Review, Associate Editor and Website Administrator</li> </ul>	2018 - 2019 2017 - 2018
FairVote Virginia – Charlottesville, VA	
■ Campaign and Media Volunteer	2017 - 2019
Yarmouth High School – Yarmouth, ME	
■ Faculty Leadership Team, Member	2016 - 2017
■ 9th Grade Faculty Team, Team Leader	2016 - 2017

#### RESEARCH INTERESTS

# **Education Policy**

Postsecondary access and success, postsecondary labor market outcomes, community colleges

#### **Data Science**

 Intersection of data science and policy research, natural language processing techniques for scalable text analytics, ethical application of predictive analytics/machine learning methods to educational contexts

#### **Economics**

Labor market matching and outcomes, socioeconomic mobility, returns to individual educational investments, behavioral/informational nudges, game theoretic decision-making frameworks

### **PROFESSIONAL AFFILIATIONS**

- Association for Education Finance and Policy (AEFP)
- American Educational Research Association (AERA)
- Association for Public Policy Analysis and Management (APPAM)
- Association for the Study of Higher Education (ASHE)
- Society for Research on Educational Effectiveness (SREE)

### **SKILLS & PROFICIENCIES**

Basic • • • Can complete most tasks with supervision
Intermediate • • Can complete most tasks independently
Advanced • • Can instruct and supervise others

Additional Analytic Skillsets	Data Analysis and Coding	<b>Content Creation</b>
Bayesian Inference • o o	D3.js ••○	Adobe Illustrator ●○○
Data Visualization (static/animated/ ••• interactive)	GitHub •••	Adobe Lightroom ●○○
	HTML / CSS ●●●	Adobe Photoshop •••
	JavaScript ●○○	Amazon Kindle
Geospatial /	Jupyter Notebook ••0	Publishing
Geospatial / Mapping Analysis	Microsoft Access ●○○	Audio Production
High-Performance	Microsoft Excel ●●●	and Editing
Computing	Python ••○	LaTeX / Overleaf • o o
Network Analysis ●●○	QGIS ●●○	Live Content
Open-Source Development	Qualtrics •• o	Streaming
Development	R / RStudio •••	Sony Vegas Video
Predictive Analytics •••	R Shiny ●●○	Editor
Text Mining and	$SQL \bullet \bullet \circ$	Website Design ●●○
Analytics (NLP)	Stata •••	WordPress ●●●
Web Scraping ●●●	Tableau ••0	YouTube
	Unix / Bash ●○○	Publishing