# BRIAN HESEUNG KIM

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# **EDUCATION**

| <ul> <li>University of Virginia – Charlottesville, VA</li> <li>Ph.D. in Education Policy at the School of Education</li> <li>Dissertation: "Applying Data Science Techniques to Promote Equity and Mobility in Education and Public Policy"</li> <li>Committee: Benjamin L. Castleman, Daphna Bassok, Vivian C. Wong, Brian Wright</li> </ul> | 2022                         |  |  |  |
|---|------------------------------|--|--|--|
| University of Virginia − Charlottesville, VA  • M.P.P. from the Frank Batten School of Leadership and Public Policy   | 2019                         |  |  |  |
| Bowdoin College − Brunswick, ME  B.A. in English and Economics with Teaching and Music Minors  Maine State Teacher Certification in English and Social Studies  | 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<br>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                         |  |  |  |
| Bowdoin College — Brunswick, ME  Snow Family Teacher Scholar Fellowship Robert L. M. and Nell G. Ahern Scholarship Sarah and James Bowdoin Scholar (Dean's list) Maine Community Service Fellowship (selective)   | 2014<br>2013<br>2013<br>2012 |  |  |  |

# **GRANTS**

Bill & Melinda Gates Foundation. "Increasing Postsecondary Outcomes Data Use." Co-PI with Mark Freeman and Sarah Nolan, Common App. \$585,236. 2023-2025.

- 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

- Bartanen, B., Kwok, K., Avitabile, A., and **Kim, B. H.** (2025). Why Do You Want to Be a Teacher? A Natural Language Processing Approach. *Educational Researcher*, *54*(1), 7-20. <a href="https://doi.org/10.3102/0013189X241276814">https://doi.org/10.3102/0013189X241276814</a>. 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. (2024). Inequality Beyond Standardized Tests: Trends in Extracurricular Activity Reporting in College Applications Across Race and Class. *American Educational Research Journal*, 62(2), 336-377. <a href="https://doi.org/10.3102/00028312241292309">https://doi.org/10.3102/00028312241292309</a>. Open-source codebase <a href="https://doi.org/10.3102/00028312241292309">available via GitHub</a>. Open-access working paper <a href="https://doi.org/10.3102/00028312241292309">available online</a>.
- 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*. <a href="https://doi.org/10.1162/edfp\_a\_00392">https://doi.org/10.1162/edfp\_a\_00392</a>. Open-access working paper <a href="available-online">available-online</a>.
- Rodriguez-Segura, D., **Kim, B. H.** (2021). The Last Mile in School Access: Mapping Education Deserts in Developing Countries. *Development Engineering*, 100064. https://doi.org/10.1016/j.deveng.2021.100064. Open-source codebase available via GitHub.

### Under Review

Kim, B. H., Park, J., Lo, P., Baker, D., Wong, N., Breen, S., Truong, H., Zheng, J, Rosinger, K., & Poon, O. (2024). *Inequity and College Applications: Assessing Differences and Disparities in Letters of Recommendation from School Counselors with Natural Language Processing*. Open-access working paper available online.

# Working Papers

- Kim, B. H., Meyer, K., & Choe, A. (2023). Gauging Engagement: Measuring Student Response to a Large-Scale College Advising Field Experiment. Codebase available via GitHub. Working paper available online.
- 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

- **Kim, B. H.**, Armstrong, E., Freeman, M., Hughes, R., Kajikawa, T., & Nolan, S. (2024). *First-generation Status in Context.* Common App Research Briefs. Brief parts one, two, and three available online.
- 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**

- Duckworth, A., **Kim, B. H.,** Lira, B., Toll, B. (2024, June). *Admissions practices and strategy in the era of Artificial Intelligence and Big Data.* Invited panel discussion at the annual Common App Illuminate conference.
- 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).

### **CONFERENCE PRESENTATIONS**

Kim, B. H., Park, J., Lo, P., Baker, D., Wong, N., Breen, S., Truong, H., Zheng, J, Rosinger, K., & Poon, O. (2024). *Inequity and College Applications: Assessing Differences and Disparities in Letters of Recommendation from School Counselors with Natural Language Processing*. Paper presentation at Annual Conference of Association of Education Finance and Policy, Baltimore, MD.

- 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, Philadelphia, 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 47th 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 46th 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.

#### 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 & external research

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

2021 - 2024

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 (Graduate) LPPS5740: Data Science for Public Leaders, Adjunct Faculty/Co-developer Scheduled 2021 Survey course on emerging data science applications and ethical considerations for public policy and social sciences research [Open-Source Course Materials] (Graduate) LPPP5540: Public Interest Data Lab, Project Advisor 2020 Introductory data science methods for community-based public interest research (Graduate) EDLF5310: Data Management for Social Science Research, Teaching Asst. 2019 Introductory data management and statistical analysis [Teaching Evaluations] (Workshop) Introduction to GitHub for Education Policy Researchers, Instructor 2021 Part of EdPolicyWorks Graduate Student Methodology Workshop series (Workshop) Communicating Research: Best Practices for Presenting and 2021 Visualizing Quantitative Evidence, Instructor Introductory workshop for underrepresented undergraduate and graduate students preparing for careers in Education Policy (Workshop) Graduate School Admissions for First-Generation Students, Facilitator 2019 (Workshop) Introduction to Data Visualization, Instructor 2019 Part of Summer Undergraduate Research Program (SURP) workshop series for underrepresented undergraduates interested in research careers (Workshop) Introduction to R, Instructor 2018, 2019 Part of SURP workshop series (Workshop) Introduction to Web Scraping, Co-instructor 2018 Part of EdPolicyWorks Graduate Student Methodology Workshop series Yarmouth High School - Yarmouth, ME (Secondary) 9th Grade English Language Arts, Teacher [Teaching Evaluations] 2014 - 2017(Secondary) Non-Fiction and Rhetoric, Teacher [Teaching Evaluations] 2014 - 2017

# Johns Hopkins Center for Talented Youth - Lancaster, PA

(Secondary) Probability and Game Theory, Instructor
 Accelerated summer course for 7-10<sup>th</sup> grade gifted & talented students; roughly undergraduate equivalent [Teaching Evaluations]

# Bowdoin College - Brunswick, ME

(Undergraduate) <u>ECON2323</u>: <u>Economics of Information</u>, *Teaching Assistant* Introductory course on game theory and behavioral economics

### **COMMUNITY & PROFESSIONAL SERVICE**

#### Reviewer

- Conference Proposals: Association for Public Policy Analysis and Management, Association for Education Finance and Policy
- Manuscripts: Education Finance and Policy, Economics of Education Review, AERA Open, Nature: Humanities and Social Sciences Communications

| Association for Education Finance and Policy – Sparks, NV  Board of Directors, Private/Nonprofit Affiliate   | 2025 – Present  |
|--|---|
| Bowdoin College − Brunswick, ME  Regional Admissions Volunteer Organization, Regional Student Interviewer  Bowdoin College Alumni Fund, Class Fundraising Agent  | 2017 - 2024<br>2013 - 2024                                |
| <ul> <li>University of Virginia School of Education — Charlottesville, VA</li> <li>Curry Student Travel Fund, Committee Co-chair</li> <li>EdPolicyWorks Graduate Student Office, Community Coordinator</li> <li>EdPolicyWorks Graduate Student Office, Methodology Workshop Coordinator</li> <li>Curry Common Read, EdPolicyWorks Discussion Co-facilitator</li> <li>Summer Undergraduate Research Program, Graduate Student Mentor</li> </ul> | 2019 - 2021<br>2018 - 2021<br>2018 - 2021<br>2020<br>2018 |
| University of Virginia Frank Batten School of Leadership and Public Policy — Charlottesville, VA  Batten Diversity and Inclusion Board, Student Member Virginia Policy Review, Associate Editor and Website Administrator  | 2018 - 2019<br>2017 - 2018                                |
| FairVote Virginia — Charlottesville, VA  Campaign and Media Volunteer  | 2017 – 2019   |
| Yarmouth High School − Yarmouth, ME  Faculty Leadership Team, Member  9th Grade Faculty Team, Team Leader  | 2016 – 2017<br>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 | Content Creation             |
|------------------------------------|--------------------------|------------------------------|
| Bayesian Inference • 0 0           | D3.js ••0                | Adobe Illustrator • 00       |
| Data Visualization                 | GitHub ●●●               | Adobe Lightroom ●○○          |
| (static/animated/ ●●● interactive) | HTML / CSS ●●●           | Adobe Photoshop •••          |
|                                    | JavaScript • o o         | Amazon Kindle                |
| Geospatial /                       | Jupyter Notebook ••0     | Publishing                   |
| Mapping Analysis                   | Microsoft Access • o o   | Audio Production             |
| High-Performance                   | Microsoft Excel ●●●      | and Editing                  |
| Computing                          | Python •• o              | LaTeX / Overleaf ●○○         |
| Network Analysis •••               | QGIS ●●○                 | Live Content                 |
| Open-Source                        | Qualtrics •• o           | Streaming                    |
| Development                        | R / RStudio ●●●          | Sony Vegas Video             |
| Predictive Analytics •••           | R Shiny •• O             | Editor                       |
| Text Mining and                    | SQL ••○                  | Website Design ●●○           |
| Analytics (NLP)                    | Stata •••                | WordPress ●●●                |
| Web Scraping •••                   | Tableau ••0              | YouTube<br>Political • • • • |
|                                    | Unix / Bash ●○○          | Publishing                   |