
Andy Kim

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EDUCATION

University of California, Berkeley | School of Public Health **Berkeley, CA***MA/PhD Candidate in Biostatistics, Exp. Graduation: May 2026*

Coursework: Biostatistical Methods: Computational Statistics with Applications in Biology and Medicine, Introduction to Probability and Inference at an Advanced Level, Introduction to Statistical Computing

Harvard University, Class of 2018 **Cambridge, MA***A.B. in Statistics, Secondary in Integrative Biology, Citation in Czech Language; GPA: 3.77*

Coursework: Data Analysis in Modern Biostatistics, Probability, Statistical Inference, Machine Learning in Biological Data Analysis, Advanced Topics in Data Science, Calculus, Series, and Differential Equations, Modeling/Differential Equations for the Life Sciences, Linear Algebra, Linear Models in Statistics, Philosophy of Probability, Mathematical Biology - Evolutionary Dynamics, Independent Research: Longitudinal Health Declines in Small-Scale Fisheries

Harvard T.H. Chan School of Public Health **Boston, MA***Non-Degree Training, sponsored by Cardiovascular Division of Brigham and Women's* **Spring 2019**

Relevant Coursework: BST 282 - Computational Biology and Bioinformatics

RESEARCH EXPERIENCE

Cardiovascular Medicine | Brigham and Women's Hospital **Boston, MA***Data Analyst, Dr. Amil Shah Research Group***June 2020 - Present**

- Led project on quantifying the degree of bias in causal effect estimates when change-score analyses adjust for baseline. I simulated data to show baseline adjustment artificially inflates effect estimates.
- Developed pipeline and implemented the "knockoff-filter" by Candès 2016 on high-dimensional proteomic data to identify robust biomarkers of heart failure controlling for multiple time-varying clinical exposures.

Smidt Heart Institute | Cedars-Sinai Medical Center **Los Angeles, CA***Consulting Data Analyst***February 2019 - Present**

- Consulted and directly assisted junior faculty, post-doctoral fellows, and graduate students in implementing statistical analyses of high-dimensional data, including longitudinal measures with time-to-event outcomes.
- Implemented and visualized adjusted survival curves using inverse probability weight adjustment.
- Co-authored manuscript on longitudinal sex differences in blood pressure outcomes. Implemented the mixed-effects regression models and assisted with manuscript writing. Accepted in *JAMA Cardiol* and *Hypertension*.

Cardiovascular Medicine | Brigham and Women's Hospital **Boston, MA***Lead Data Analyst, Dr. Susan Cheng Research Group***June 2018 - June 2020**

- Researched, tested, and validated advanced data analysis techniques (e.g. machine learning methods) to relate high-dimensional molecular markers with outcomes across a wide range of human and experimental cohorts.
- Led methodology development for projects with unconventional data structures and study designs.
- **Co-Director** of 2018 Summer Internship in Applied Bioinformatics: led seminars and taught pre- and post-doctoral research fellows on applied biostatistics topics; supervised specific coding tasks and assignments.

Rockefeller Foundation | Planetary Health Fellowship Program Antongil Bay, Madagascar
Planetary Health Research Fellow Fall 2016 – Summer 2018

- Used Bayesian modeling in RStan and visualizations in R and Python to analyze and present the effects of varying management strategies on sustainability of fish catch in small-scale fisheries.
- Organized focus groups and collected data on-site with fishers in locally-managed fisheries.

Planetary Health Alliance | Harvard University Center for the Environment Cambridge, MA
Data Analyst, Dr. Christopher Golden Research Group Summer 2016 – Spring 2018

- Wrote data processing scripts in R to analyze the effect of macroscopic climate change on nutrition.
- Used Excel to clean and create a unique dataset detailing nutritional intake and health outcomes.
- Processed thousands of individual dietary records to create longitudinal nutritional database in R.

Summer Program in Epidemiology | Harvard School of Public Health Cambridge, MA
Research Intern Summer 2016

- Conducted and presented epidemiology research project under mentorship of Dr. Richard Wyss and Josh Gagne on the effect of statewide gun policy changes on violent death outcomes.
- Completed coursework in Biostatistics and Epidemiology, attended lectures taught by HSPH faculty.

PUBLICATIONS

1. **Kim A.** (2018, Jan 2). The Faces Behind the Statistics of Environmental Change [Web log post]. Retrieved from blog.nationalgeographic.org/2018/01/02/the-faces-behind-the-statistics-of-environmental-change.
2. Playdon MC, Joshi AD, Tabung FK, Cheng S, Henglin M, **Kim A**, Lin T, van Roekel EH, Huang J, Krumsiek J, Wang Y, Mathé E, Temprosa M, Moore S, Chawes B, Eliassen AH, Gsur A, Gunter MJ, Harada S, Langenberg C, Oresic M, Perng W, Seow WJ, Zeleznik OA. Metabolomics Analytics Workflow for Epidemiological Research: Perspectives from the Consortium of Metabolomics Studies (COMETS). *Metabolites*. 2019; 9(7):145.
3. Antonelli J, Claggett BL, Henglin M, **Kim A**, Ovsak G, Kim N, Deng K, Rao K, Tyagi O, Watrous JD, Lagerborg KA, Hushcha PV, Demler OV, Mora S, Niiranen TJ, Pereira AC, Jain M, Cheng S. Statistical Workflow for Feature Selection in Human Metabolomics Data. *Metabolites*. 2019; 9(7):143.
4. Ji H, **Kim A**, Ebinger J, Niiranen T, Claggett B, Bairey Merz CN, Cheng S. Sex Differences in Blood Pressure Trajectories Over the Life Course. *JAMA Cardiol*. 2020; 5(3):19–26.
5. Ji H, **Kim A**, Ebinger J, Niiranen T, Claggett B, Bairey Merz CN, Cheng S. Cardiometabolic Risk-Related Blood Pressure Trajectories Differ by Sex. *Hypertension*. 2020; 75:e6–e9.
6. Shufelt CL, **Kim A**, Joung S, Barsky L, Arnold C, Cheng S, Dhawan S, Fuller G, Speier W, Lopez M, Mastali M, Mouapi K, van den Broek I, Wei J, Spiegel B, Van Eyk JE, Bairey-Merz CN. Biometric and Psychometric Remote Monitoring and Cardiovascular Risk Biomarkers in Ischemic Heart Disease. *J Am Heart Assoc*. 2020; 9(18):e016023.
7. Rader F, Rashid MA, Nguyen TT, **Kim A**, Elashhoff R, Davoren K, Moy NB, Nafeh F, Kim EH, Bairey Merz CN, Ebinger JE, Hamburg NM, Cheng S. E-Cigarette Use and Subclinical Cardiac Effects. *Circulation Research*. 2020.
8. Shufelt C, **Kim A**, Cheng S, Fuller G, Joung S, Mastali M, Mouapi K, Fu Q, Lopez M, Spiegel B, Van Eyk J, Bairey Merz CN. Relationship Between Patient-Reported Outcomes and Cardiac Biomarkers: the Prediction, Risk, and Evaluation of Major Adverse Cardiac Events (Pre-Mace) Study Baseline Results. *J Am Coll Cardiol*. 2020; In submission.

ABSTRACTS

1. Rashid M, Davoren K, Moy NB, Nafeh F, Elashhoff R, Kim C, **Kim A**, Kim E, Cheng S, Rader F. E-cigarette use leads to impaired coronary endothelial function in young adults. Abstract accepted to 2019 AHA Scientific Sessions, Philadelphia, PA.
2. Rashid M, Davoren K, Moy NB, Nafeh F, Elashhoff R, Kim C, **Kim A**, Kim E, Nelson MD, Cheng S, Rader F. Chronic E-cigarette users demonstrate more persistent coronary endothelial dysfunction than chronic combustible cigarette users. Abstract accepted to 2019 AHA Scientific Sessions, Philadelphia, PA.

3. Rashid M, Davoren K, Moy NB, Nafeh F, Elashoff R, Kim C, **Kim A**, Kim E, Nelson MD, Cheng S, Rader F. Chronic E-cigarette users exhibit abnormal myocardial blood flow with stress. Abstract accepted to 2019 AHA Scientific Sessions, Philadelphia, PA.

PROFESSIONAL AND VOLUNTEER EXPERIENCE

Teaching Fellow in Statistics, Harvard University

Cambridge, MA

*STAT 102: Statistics for the Life Sciences, Faculty: Kevin Rader**Spring 2018*

- Prepared and led two weekly hour-long sections, graded homework assignments and examinations.
- Designed and led "Introduction to R" workshop for students with zero to beginner coding experience.

First-Year Outdoor Program at Harvard

Cambridge, MA

*Hiking/Canoe Orientation Trip Leader**Spring 2015 - Spring 2018*

- Led freshmen on Appalachian Trail to hike/canoe and engage in topics on diversity/mental health.
- Certifications include Wilderness First Aid and American Red Cross Lifeguarding/CPR certificate.

WHRB - Harvard Radio Broadcasting

Cambridge, MA

*Chief Operator and Program Director**Spring 2015 - Spring 2018*

- Led weekly meetings with Administration to curate special programs in conjunction with local events.
- Produced and managed daily logs and recorded shows, advertisements and PSAs in Adobe Audition.

SKILLS AND INTERESTS

Technical Software: R, Python, SQL, STATA, MATLAB, RStan**Other Software:** Github, Markdown, LaTeX, Tableau, AWS, UNIX, Photoshop, Audacity**Language:** English (native), Korean (fluent), Czech (advanced)**Interests:** Music Composition, Jazz Guitar, Keyboard, Bass Guitar, Backpacking, Climbing, Tennis