Jungeum Kim
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ACADEMIC BACKGROUND

Booth School of Business, University of Chicago

Chicago, IL 2022 - Current

Principal Postdoctoral Researcher in Econometrics and Statistics group
Supervisor: Veronika Rockova

Purdue University

West Lafayette, IN 2022

Ph.D in Statistics
Thesis supervisor: Xiao Wang
Thesis: “Bridging the gap between human and computer vision in machine learning, adversarial and manifold learning for high-dimensional data”

Seoul National University (SNU)

Seoul, Korea 2017

M.S. in Statistics,
Thesis supervisor: Hee-Seok Oh
Thesis: “Unified framework of Robust PCA”

Seoul National University (SNU)

Seoul, Korea 2015

B.S. in Statistics
B.S. in Social Welfare

FIELDS of INTEREST

Deep learning, particularly robust and principled deep learning for science
High-dimensional data analysis, Manifold learning, Data visualization
Bayesian nonparametrics, Robust statistics
High performance computation, Cluster computing

PUBLICATIONS

Jungeum Kim, Veronica Rockova (2023) Deep Bayes Factors, under review

Jungeum Kim, Veronica Rockova (2023) On Mixing Rates for Bayesian CART, under review

Jungeum Kim, Xiao Wang (2022) Inductive Global and Local Manifold Approximation and Projection, under review

Jungeum Kim, Xiao Wang (2022) Sensible adversarial learning, AOAS

Jungeum Kim, Hee-Seok Oh (2016) Unified framework of Robust PCA, Master's thesis

PRESENTATIONS

Talks

On Artificial Intelligence for Bayesian Decision Making

- Invited talk at the 16th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2023), Berlin, Germany

On mixing rates for Bayesian CART

- Invited talk at Statistics Department Seminar, October, 2023, University of Wisconsin–Madison, United States
- Invited talk (topic-contributed session) at *the 2023, Joint Statistical Meetings* (JSM), Toronto, Canada
- Invited talk at Statistics and Math Department Colloquium, March, 2023, Auburn University, Alabama, United States

Sensible Adversarial Learning

- Invited talk at *the 2023, ISI World Statistics Congress* , Ottawa, Canada
- Invited talk at Computational Finance seminar (STAT 59800.008), March 2020 Purdue

Inductive Global and Local Manifold Approximation and Projection

- Invited talk at *the 2022 Summer Conference of the Korean Statistical Society*, Seoul, Korea
- Refereed talk *at the 2022 Symposium on Data Science and Statistics* (SDSS), Pittsburgh, United States
- Contributed talk at *the 2022 Joint Statistical Meetings* (JSM), Washington D.C., United States

A unified framework of robust PCA: Use of robust unit approach.

- Contributed talk at *the 9th International Conference of the ERCIM WG on Computational and Methodological Statistics* (CMStatistics 2016), Seville, Spain
- Contributed talk at *the 2016 Spring Conference of the Korean Statistical Society*, Seoul, Korea

Poster

Is robustness trade-off really inevitable?

- Poster presentation at 2019 Arthur M. Sackler Colloquia: The Science of Deep learning, Washington D.C., United States
- Poster presentation at 2019 Symposium on Data Science & Statistics (SDSS), in Bellevue, Washington, United States (with the travel award)
- Poster presentation at 2019 Foundation of Data Science Summer School, Georgia Institute of Technology, Georgia, United States

Python tutorials (Purdue University)

- Python tutorial, Invited lecture in Machine Learning in Finance (STAT 59800.081), March 2020 Purdue
- Pytorch tutorial, Invited talk at the regular seminar of the Graduate Student Organization of Statistics Department, February 2019 Purdue University
- Pytorch tutorial, Invited talk at the Purdue University American Statistical Association Student Chapter, February 2019 Purdue University

HONORS AND FELLOWSHIPS

- I. W. Burr Award, 2022, Purdue Department of Statistics
- Student presentation competition, First Place, in the 2016 Spring Conference of the Korean Statistical Society, Korea
- Brain Korea 21 Graduate Student Fellowship, National Research Foundation of Korea, Spring 2016

PROFESSIONAL ACTIVITIES

- Diversity and Inclusion Committee, Department of Statistics, Purdue University, 2022

- Statistics Graduate Student Organization Student Seminar Coordinator, Spring 2021
- Reviewing: Technometrics (2020, 2021, 2022), JASA (2022)

CERTIFICATIONS

- Graduate Teacher Certificate, by Center for Instructional Excellence, 2019 Purdue University

SKILLS

- Statistical Packages: R, SAS
- Computational Languages: Python, PyTorch
- Others: Unix Shell, high performance cluster computing, deep learning

TEACHING EXPERIENCE

Teaching Assistant, *Introduction to Data Science CS/STAT 24200,* Purdue University, Spring 2021, Spring 2022

- Hold office hours and Labs to help students (major language: Python)
- Lead undergraduate TAs (Spring 2022)
- Reached out to students having difficulties in following the class materials (Spring 2022)
- Invited a special lecturer from industries (Spring 2022)

Teaching Assistant, *Data Mine STAT 19000,* Purdue University, Fall 2020, Spring 2021

- Assisted the lecturer in virtual class, helping the students during the first week
- Student contact TA: Hold office hours for helping the students on their data mine projects (major language: R)

Teaching Assistant, *Divide and Recombine with R-Hadoop for Big Data*, Purdue University, Spring and Fall 2019, Spring 2020

- Assisted the lecturer for in-class programming activities by helping the students and by giving lectures on behalf of the lecturer when needed.

Teaching Assistant, *Design of Experiments STAT 51400,* Purdue University, Fall 2018

- Graded homework (major language: SAS)

Lab instructor, STAT 301, *Elementary Statistical Methods,* Purdue University, Spring and Fall 2018, Spring 2019

- Summarized the lecture session and illustrated the statistical analysis process with SPSS
- Interacted in class with students individually to ensure they understand the materials and encouraged them not to give up the entire lab process in the semester
- Graded labs and held office hours

Teaching Assistant, *Statistical Computing and Lab*, Seoul National University, Fall 2016

- Taught lab sessions independently twice about algorithm and data structure with R
- Constructed and graded assignments and exams in part
- Graded term papers

Lab instructor, *Statistical Lab,* Seoul National University, Fall 2015

- Instructed a two-hours lab session every week with R to ensure the students can apply the statistical methods in the lecture sessions to real data
- Constructed and graded exams

Teaching Assistant, *Statistics*, Seoul National University, Spring 2015

- Graded and proctored exams

COURSE WORK for COMPUTATIONS

- Computational Statistics (2011, FORTRAN, SNU, A+)
- Bayesian Statistics (2014, R, SNU, A+)
- Computational Statistics (2017, R, Purdue, A)
- Big data with D&R (2017, Cluster Computing, Purdue, A+)
- Security Analytics (2019, Security in Machine Learning, Purdue, A)

SCHOLARSHIP

- Virgil Anderson and Gloria Fischer Graduate Fellowship, Purdue, 2021
- Graduate School Summer Research Grant, Purdue, 2020
- Bob and Marjorie McLean Scholarship, Purdue, 2017
- Superior Academic Performance scholarship, Fall 2016
- SNU Development Fund Scholarship, Spring 2015
- Superior Academic Performance scholarship, Spring 2015
- SNU Summer Study abroad scholarship (California-Berkeley), Summer 2014
- Kwanak Corporation, Spring 2011-2012

- Daishin Songchon Foundation scholarship, Spring 2011
- Superior Academic Performance scholarship, Spring 2010 - Spring 2011
- SNU Development Fund Scholarship, Fall 2009 -Spring 2010
- Superior Academic Performance scholarship, Fall 2009

OUT REACH

Field work in social welfare community center, 5 weeks, Winter 2012-2013

- Cooperated with other interns to train ourselves as social workers by establishing an intern team
- Programmed a series of student actives and gathered a group of students. Created/processed/evaluated and documented the process
- Planned and visited various social welfare organizations
- Served as team leader and accommodated/intermediated various opinions.
- Visited households, mostly of disabled people, to investigate their needs and to build a relationship with the underrepresented group of people.

OTHER EXPERIENCE

Foundation of Data Science Summer School 2019, Georgia Institute of Technology
Completed SNU Leadership Enhancement Program, Summer 2009
Summer School as University of California, Berkeley

- STAT 135*, Concepts of Statistics* (Grade score A+)

PROFESSIONAL MEMBERSHIP

- American Statistical Association (ASA), Since March 2019
- Institute of Mathematical Statistics (IMS), Since March 2019
- Korean Statistical Society (KSS), Since March 2019
- Korean International Statistical Society (KISS), Since June 2020