Jongyun Jung

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Research Interest

Genomic Data, Survival Analysis, Statistical Learning, Tree-based methods, Precision Medicine, High-dimensional data, Genome-Wide Association Study (GWAS)

Education

University of Nevada, Las Vegas, Las Vegas, Nevada

Ph.D in Epidemiology and Biostatistics, Aug 2019 - Present
Advisor: Dr. Qing Wu

Minnesota State University Mankato, Mankato, Minnesota *Cum Laude*

Master of Science, Mathematics and Statistics, Spring 2019
Advisor: Dr. Mezbah Rahman
Thesis: A Statistical Analysis and Machine Learning of Genomic Data

Claremont Graduate University, Claremont, California

Master of Science, Applied Mathematics, Jan-May 2016
Relevant Coursework: **Real Analysis I** with Francis Su & **Statistical Learning** with Qidi Peng

Minnesota State University Mankato, Mankato, Minnesota *Cum Laude*

Bachelor of Science, Economics and Mathematics, Spring 2013

Employment

Nevada Institute of Personalized Medicine, Las Vegas *(Research Assistant)* June 2019 – Present.

- Devlop the statistical model to analyze the genomic data
- Genome Wide Association Study: Pre-Processing, Imputation, Poly Generic Risk Score Calculaiton

Minnesota State University, Mankato *(Teaching Assistant)* Jan 2017– May 2019.

- Instruct College Algebra (Math 112) & Elementary Statistics (Stat 154) as an independent instructor
- Tutor different mathematics and statistics courses at Mathematics & Statistics Learning Center

Student Support Services (TRIO) Minnesota State University *(Statistics Tutor)* Sep – Dec 2016

- Assigned 5 individual students to help with the course of Stat 154 (Elementary Statistics)

- Helped with homework problems and test preparation

IMS health, Seoul, South Korea *(Secondary Data Analyst)* July 2013–Dec 2015.

- Acquired data from various sources and translated raw data into easy-to-understand information
- Analyzed data using statistical techniques and provided customized report to the decision maker
- Interpreted and analyzed the trend of health care related data and developed strategies based on the analysis for the major pharmaceutical companies in South Korea

Teaching Experience

1. Minnesota State University, Mankato, Minnesota (Jan 2017 - May 2019)

    - **College Algebra (Math 112)**, Spring 2017, Fall 2017
    - **Elementary Statistics (Stat 154)**, Spring 2018, Fall 2018, Spring 2019

Publications

Published

1. **Jongyun (Formerly, Jongha) Jung**, Kwangwoo (Ken) Park. Industrial Systematic Risks and Business Cycles in US economy 2014 October, *Journal of International Finance and Economics* 20, 10.18374/JIFE-14-4.13.

Submitted

1. Qing Wu, Fatma Nasoz, **Jongyun Jung**, Bibek Bhattarai. Genomic prediction of osteoporotic fracture risk using machine learning techniques on 1,103 SNPs of 5,130 individuals in the cohort study of Osteoporotic Fractures in Men, October 2019

2. Qing Wu, Fatma Nasoz, **Jongyun Jung**, Bibek Bhattarai. Do Machine Learning Techniques Improve Prediction of Bone Mineral Density? A comparative analysis of genomic data from 5,130 Individuals with 1,103 SNPs, September 2019

On Progress

1. A Statistical Analysis and Machine Learning of Genomic Data

2. Machine Learning *meets* Survival Analysis for the personalized medicine

Presentation

1. **A Statistical Analysis and Machine Learning of Genomic Data** at the 2nd Midwest Statistical Machine Learning Colloquium, May/13, 2019

2. **Machine Learning *meets* Survival Analysis for the personalized medicine** at 2019 Symposium on Data Science and Statistics, May/31, 2019

3. Introduction to Fourier Analysis from R.L. Herman's An Introduction to Fourier and Complex Analysis with Applications to the Spectral Analysis of Signals at the Seminar of **"An Introduction to Fourier and Complex Analysis with Applications to the Spectral Analysis of Signals"**, Spring 2019

4. Survival Analysis in Lung Cancer Study at **Michigan State Symposium on Mathematical Statistics and Applications**, September 2018

5. Industrial Systematic Risks and Business Cycles in US economy at **Minnesota Undergraduate Research Symposium**, April 2013

Awards and Honors

1. 2019 June - Present: Graduent Research Assistnat from Nevada Institute of Personalized Medicine

2. 2019 May: **Student & Early Career Travel Award for 2019 Symposium on Data Science & Statistics**($500) from American Statistical Association

3. 2017 Spring - 2019 Spring: **Teaching Assistant** at Minnesota State University Mankato, Department of Mathematics and Statistics

4. 2018 Septembeer: **Travel Funding**($200) from College of Science, Engineering and Technology for presenting at Michigan State Symposium on Mathematical Statistics and Applications

5. 2018 September: **Travel Funding**($350) from Michigan State University for presenting at Michigan State Symposium on Mathematical Statistics and Applications

6. 2018 August: **Travel Funding**($430) from American Statistical Association for Preparing to Teach Workshop

Software Skills

- **Computing/Statistical Software:** R (Proficient), Matlab (Intermediate), SAS (Intermediate), Python (Beginner)

- **Document Preparation:** LaTeX, Markdown

- **Computer Skills:** Microsoft Office

- **Genomic Data Tools:** Plink, GCTA

Certification

1. "**Building R Packages**" by Johns Hopkins University on Coursera. Certificate earned at Thursday, August 23, 2018 12:20 PM GMT"

2. "**Advanced R Programming**" by Johns Hopkins University on Coursera. Certificate earned at Tuesday, August 21, 2018 4:24 PM GMT"

3. "**The R Programming Environment**" by Johns Hopkins University on Coursera. Certificate earned at Friday, August 10, 2018 5:22 PM GMT"

4. "**Introduction to Genomic Technologies**" by Johns Hopkins University on Coursera. Certificate earned December 2018"

Volunteer & Leadership Experience

1. **Founder and President** of American Statistical Association (ASA) Student Chapter and President of Statistics Club at MSU, Fall 2018 and Spring 2019

   - Organized ASA Student Chapter event at MSU

   - Arranged Webinar session of "Careers for Statisticians in the Medical Product Industry" with Dr. Richard C. Zink

   - Arranged and organized session of "Markov Chain Monte Carlo Method: Metropolis-Hasting Algorithm" with Dr. Hyekyung Min

2. **Volunteer** of Education/History booth at the Joint Statistical Meetings, 2018

3. Arranged the seminar of "An Introduction to Fourier and Complex Analysis with Applications to the Spectral Analysis of Signals" supervised by Dr. In-Jae Kim at MSU, Spring 2019

Professional Membership

- American Statistical Association, since 2018

- American Mathematical Association, since 2016

- Insitute of Mathematical Association, since 2018

- American Society of Human Genetics, since 2019

Last updated: December 23, 2019