JIATONG LIANG

University of Maryland, College Park
B.S., Mathematics and minor in Computer Science
Expected May 2023
College of Computer, Mathematical, & Natural Sciences
Statistics Track
GPA 3.982

Phone: 240-714-8103
Email: kevinliang1579@gmail.com

RESEARCH EXPERIENCE

Research Assistant - UMSOM

University of Maryland School of Medicine (UMSOM)
January 2022 - Present

- Performed bioinformatics research under Professor Yuji Zhang
- Utilized RNAseq-based gene profiling to investigate potential Alzheimer's Disease mechanisms
- Analyzed transcriptomic data generated from three cohort studies: ROSMAP, MAYO, MSBB
- Applied differential gene expression analysis and weighted co-expression network analysis using Bioconductor packages to identify gene modules showing strong correlations with disease traits

Student Researcher - Bill Fagan Lab

University of Maryland, Department of Biology
June 2021 - December 2021

- Analyzed animal movement track data using ctmm package in R to identify animal dens
- Performed statistical analysis to examine how extensively bobcats and pumas use memory for navigation
- Characterized home range boundaries using AKDE toolkits and investigated evidence for animal "memory" by quantifying statistical signatures of revisitation

INTERNSHIPS

U.S. Department of Energy (DOE)

Office of Advanced Scientific Computing Research
January 2022 - May 2022

- Utilized Python to apply clustering and natural language processing techniques on data to analyze DOE facilities user experience
- Converted data into actionable insights by addressing facility usage patterns
- Regularly presented findings to supervisor and analytics team regarding research direction

U.S. Department of Treasury

Bureau of the Fiscal Service, Program Evaluation Branch
June 2021 - August 2021

- Provided training to the entire Enterprise, Planning, Performance, and Evaluation Division (EEPED) team on creating logic models
- Organized a logic model for the Treasury Offset Program (TOP) in Fiscal Service
- Utilized Power BI to create visualizations for an interactive performance dashboard
- Visualized large datasets utilizing Python code development

ABSTRACT

"Identification of Sequence-based Transcription Profiling Associated with Alzheimer's Disease" - Abstract submitted to the 2022 American Medical Informatics Association (AMIA) Symposium, currently under review.

AWARDS

NASA Student Spaceflight Experiments Program Finalist
March 2020

- Awarded first place in a proposal writing competition to design and launch an experiment aboard the International Space Station
- Title of proposal: "The Effect of Microgravity on Bacteriophage Replication and Infectivity (Part II to Mission 12)"

UMD Math Department Strauss Teaching Assistant Award
August 2022

- Received the Strauss Teaching Assistant Award to teach a discussion section in Calculus I and Calculus II

TEACHING EXPERIENCE

STEM Mentor - FLAME Program

University of Maryland, College Park
August 2019 - May 2021

- Developed weekly lesson plans and worked with students from different backgrounds at Charles Carroll Middle School in New Carrollton, Maryland.
- Guided students to participate in STEM activities through a variety of demonstrations and experiments
- Established meaningful interpersonal connections with the students as a STEM mentor

Undergraduate Tutor - UMD Math Department

University of Maryland, College Park
January 2022 - July 2022

- Advanced undergraduate mathematics student hired by UMD math department
- Provided academic support to students by reinforcing concepts taught in the following courses:
  - Advanced Calculus I and Probability Theory (Spring 2022)
  - Calculus I and Probability Theory (Summer 2022)

SKILLS

Technical
Advanced at R, Python, Java, C, SAS, SQL, MATLAB
Familiar with Microsoft Office Suite (Word, Excel, Powerpoint), Power BI