Juhyun Lee

Seoul, South Korea | jlee400@gmu.edu | +82 10 3938 5547 | Juhyun's Learning hub | Juhyun Lee | jlee400

Personal Profile

Hard-working junior student majoring in Computational & Data Sciences (BS) at George Mason University Korea, looking to pursue a scientific research experience. Widely expanding knowledge related to Data Science not only in courses but also through self-teaching from academic books and online courses. Currently, he has deeper experience in Python and R and basic experience in MATLAB, NetLogo, and Fortran. Experience in project research in applying mathematical and statistical concepts related to data science to learned modules.

Education

George Mason University *2023 - Present*
BS in Computational & Data Sciences

- Cumulative GPA: 3.68 (Current)
- Most Recent GPA: 4.0
- **Relevant Modules:** Computational Science Tools, Computational Scientific Programming, Agent-based Modeling and Simulation, Modeling and Simulation (I, II), Computing for Scientists, Analytic Geometry and Calculus (I, II), Linear Algebra, Introductory Statistics (I, II), Introduction to Computational and Data Sciences

Muhak Girls' High School *2020 - 2023*
High School Diploma

- Curriculum: Science Focused Course
- **Courses taken:** (High School-level) Mathematics I, Mathematics II, Pre-Calculus, Probability and Statistics, Physics I, Physics II, Chemistry I, Chemistry II, Advanced Chemistry, Biology I, Biology II, Earth Science I, Earth Science II, English I, English II, Business English

Experience

Learning Assistant *Incheon, South Korea*
George Mason University Korea *February 2025 - Present*

- Learning assistant for George Mason University Korea Introductory to Global Affairs (GLOA 101) course
- Promoted academic engagement through Q&A sessions, discussions, and collaborative study groups, fostering a sense of community and collective learning among students.
- Supported the instructor by addressing student inquiries and ensuring smooth communication, contributing to the overall success of the course and student learning outcomes.
- Facilitated a dynamic and inclusive learning environment by initiating and managing a Discord server, enhancing peer-to-peer interaction and knowledge sharing beyond the classroom.

Program Assistant for Incheon Citizen Life College *Incheon, South Korea*
Incheon Citizen Life College George Mason Korea Campus *August 2023 - June 2024*

- Learning assistant for Incheon Life College is designed for citizen students who pursue everyday life learning opportunities
- English translation of script, poster, pamphlet, and brochures
- English interpretation for international honored guests of the program
- Managed Opening, closing ceremony, and George Mason University Korea 10^{th} anniversary events
- Leader of the event staff for each opening and closing ceremony event

Additional Activities

L&D Head, CDSD (Computational Data Sciences Delegation Learning & Development department) — *George Mason University Korea*, *George Mason University Korea*, *Feb 2025 – Present*

- Led weekly meetings to discuss progress and share insights while learning Python
- Solved Python-based quizzes and collaboratively shared solutions with teammates
- Designed and facilitated Python-based quizzes to enhance team learning through group problem-solving

Chinese Supporter, nLingual (Language exchange club) — *George Mason University*, *George Mason University*, *Feb 2025 – Present*

- Led weekly classes to teach Chinese to Korean students motivated to improve their language skills
- Conducted level assessments and tailored materials to help students expand their sentence structures and improve Chinese character (Hanzi) reading proficiency
- Recruited two additional Chinese mentors to strengthen the newly established department and provide more diverse learning opportunities

2023 Student-led International Exchange Academy Mentor — *Incheon, South Korea / Ulaanbaatar, Mongolia*, *Incheon Metropolitan Office of Education, NGO Onhappy*, *June 2023 – Aug 2023*

- Collaborating with the Incheon Metropolitan City Office of Education and the NGO 'Onhappy,' engaged 23 local middle and high school students in weekly sessions focused on Environmental, Social, and Governance (ESG) principles and SDGs
- Conducted thorough research and led classes emphasizing ocean conservation, particularly addressing the issue of 'ghost fishing' and its detrimental effects on marine biodiversity
- Held Global Youth Forum in Ulaanbaatar, Mongolia, in July 2023, where we engaged in discussions with international peers. In addition, a local forum was organized in Incheon to raise awareness about abandoned fishing gear

Projects

Network Data Analytics: Network Analysis of World Trade Data comparing Soybean and Beef — *Network analysis of world trade*

George Mason University- Computational Science Programming

- Network analysis based on world trade data announced by FAO in the 'Computational Science Programming' course.
- Analyzed global soybean and beef trade networks using FAO STAT and networkx package in Python
- Visualized network flows and trends through interactive graphs using plotly and HTML dashboards
- Applied in-degree, out-degree, modularity, and centrality metrics to uncover community structures and key trading countries
- Published project with SEO optimization on personal GitHub pages
- Tools used: Python, Excel, Markdown, Github

Data Analytics: Revenue analysis and prediction of global agriculture based on climate change — *Global agriculture analysis*

George Mason University-Introduction to computational and data sciences

- The final 4-week research project with 7 members after learning all modules in the 'Computational and Data Sciences' course.
- Research completed with topic of 'Crop type and continent selection decision making for higher economic revenue' considering average temperature, CO_2 emissions, total precipitation, extreme weather events, fertilizer and pesticide usage of the region
- Modules such as data wrangling, tidying up, data visualization, explanatory data analysis, statistical inference, modeling, and predictive analysis were done with a real-world dataset
- I took a leadership role to construct the overall project structure, conducted predictive analysis, and managed the total flow of the long length of presentation

- A 40-minute presentation completed after the whole project
- Tools Used: R, Excel, GitHub

Data Analytics: Novel prize reward analysis and modeling *George Mason University*
George Mason University-Modeling and Simulation I *Korea*
December 2023

- Final 4-week research project with 4 members after learning all modules in the 'Modeling and Simulation I' course.
- Research completed with the topic of libraries in Python, such as Pandas, numpy, seaborn, and matplotlib. and modeling and linear regression were done with a real-world dataset
- I took a leadership role to construct the overall project structure, conducted visualization and found relationships of each variable, and managed the total flow of the presentation awareness about abandoned fishing gear
- A 30-minute presentation completed after the whole project
- Tools Used: Python, Excel

Achievements and Awards

- 2024 Fall Dean's List
- 2024 Spring Dean's List
- Commendation of the Incheon Metropolitan City Office of Education
- Commendation of the National Assembly
- 2023 Spring Dean's List

Technologies

Programming and Analytical Languages: Python (data analysis, machine learning), R (statistical computing), Fortran (numerical computing), MATLAB (simulation), NetLogo (agent-based modeling)

Development Tools and Platforms: GitHub (version control), Markdown (documentation), LaTeX (academic writing and formatting).

Soft Skills: Strong punctuality, effective team leadership in project settings, and clear communication between diverse teams