

Joo Wang Lee

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Education

Oregon State University

Bachelor of Science

Majoring in Applied Computer Science: Data Science

- Honor Roll | Dean's List
- *Relevant Coursework* - Data Structures | Analysis of Algorithms | Computer Architecture | Operating Systems | Database Management Systems | Software Engineering | Web Development | Applied Data Science
- *Club* – OSU App Club

Skills

Programming Language: C, C++, Python, Raku, HTML, JavaScript, CSS, SQL, Wireshark, R, Android Studio

Personal: Bilingual (Korean/English)

Projects

3D Elastic Properties of Biomaterials from Molecular Dynamics Simulations

- Optimized and parallelized molecular dynamics post-processing code (MDStress) using profiling, vectorization (SIMD), GPU acceleration, and multi-node MPI to reduce runtime and improve scalability
- Designed automated unit and regression testing framework to ensure numerical consistency across code versions
- Implemented and validated higher-order interatomic potential derivatives using symbolic algebra and automatic differentiation for elasticity and stress-fluctuation analysis
- Ported and modernized GROMACS-LS modifications to newer GROMACS releases to leverage improved performance features and sampling efficiency

Database Cleaning and Analysis

- Imported data from multiple sources including SQL databases and Python
- Cleaned and preprocessed datasets using Python and R libraries to handle missing values, outliers, and inconsistencies
- Performed data manipulation and feature engineering to reshape and transform data for analysis and modeling
- Created informative visualizations and dashboards using matplotlib, seaborn, and similar tools to communicate insights effectively

TasteDB

- Website to show the utilization of SQL queries, frontend and backend skills
- Implemented multiple tables with CRUD functions
- Usage of CSS to make website presentable

Small Shell

- A custom Shell implementation in C

- Supports Linux commands, background processes, signal handling, input/output redirection, and a foreground-only mode toggle

Portfolio

- Display personal information and showcase projects and skills
- Utilizes HTML and CSS to create website
- Links to GitHub repository for source code

Experience

Thomas Cuisine

June 2025 – December 2025

Good Samaritan Hospital | Corvallis, OR

- Organize and restock products
- Assisted patients and doctors' requests
- Responsible for updating cash and closing store

Cashier/Carryout

Aug 2020 - Nov 2021

Maggiano's Little Italy | Bellevue, WA

- Assisted customers with their takeout orders
- Updated the manager about the cash register at the end of shift
- Handled customers' complaints and feedback
- Trained new hires
- Assisted with serving during busy night shifts

Activities

Teaching Assistant,

St Andrew Kim's Korean Catholic Church | Seattle, WA

- Assisted in caring for children with disabilities every Sunday
- Foster an inclusive environment for kids to learn and play together

OSU App Club

- Collaborate with peers to design and develop mobile applications
- Engage in code reviews and discussions to improve software quality and maintainability
- Contribute to group app projects by implementing features, debugging issues, and refining app performance