

JUSTIN SHIM

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EDUCATION

University of Maryland, College Park

Dec 2024

Bachelor of Science, Computer Science and General Biology

GPA: 3.5

EXPERIENCE

Software Development Intern, EfficiencyNext – Remote

Oct 2024 – Present

- Developed a cost-tracking algorithm in **C#** for AI model usage, monitoring token consumption across different models and terminating automatically upon exceeding monthly budgets
- Conducted security reviews and sanitized SQL input for **Microsoft .NET** webpages, reducing potential vulnerabilities and attack surfaces
- Extended the functionality of a webpage to process not only PDF documents but also Word files, leveraging the WordprocessingDocument library for seamless integration

Software Engineering Intern, National Institute of Health – Bethesda, MD

June 2023 – Aug 2023

- Developed an automated pipeline in **Bash** for downstream analysis of sequencing data, improving the efficiency and reliability of sequencing analysis for future research efforts
- Implemented a **Python** script to ensure data quality by applying filtering criteria, and an **R script** to convert Ensemble gene IDs to gene symbols, improving the pipeline's functionality
- Used various computational biology packages to analyze clinical outcomes of cancer patients, acquiring proficiency in the data science life cycle from collection to interpretation
- Presented research and development process to researchers at the NIH on a scientific [poster](#)

PROJECTS

Maze Solver

- Developed a maze solver program, using graph traversal algorithms for pathfinding
- Demonstrated proficiency in **Java** optimization techniques, including the use of Hash Tables/Maps, Sets, Stacks, Queues, Interfaces, and Polymorphism to enhance program performance and maintainability
- Extended program functionality by incorporating a maze generator of varying complexity, allowing users to compare pathfinding algorithms in real-time

Weather App

- Developed a responsive web application using **JavaScript/HTML/CSS** to display current weather information for any city
- Utilized the **OpenWeatherMap API** to fetch and display real-time weather data, including temperature, humidity, and weather conditions

Sudoku Solver

- Developed a **Python** script to solve 9x9 Sudoku puzzles efficiently
- Implemented a backtracking algorithm to systematically scan and fill all empty spaces on the board with the correct numbers to complete the puzzle

SKILLS

Coding Languages

- Java, Kotlin, Python, JavaScript/HTML/CSS, SQL, C, C++, C#, MATLAB, Rust, R, AVR Assembly, Bash
- Node.js, Express.js, MongoDB, React

Environments and Practices

- Visual Studio, Android Studio, Microsoft.NET, Jupyter Notebook, Eclipse, R-Studio, GitHub
- Git, Docker

Other Relevant Skills

- Excel, Google Drive, Video Editing
- Biographies, Club Football, Basketball, Fishing, Aquascaping, Philosophy, Reading