Y-Nha Pauline Nguyen

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EDUCATION

San Jose State University | San Jose, CA *Graduating May 2026*

Bachelor of Science in Computer Science & Linguistics

GPA: 3.5, Awarded Dean's Scholar (Awarded 2 times: Fall 2021, Spring 2022) for maintaining a GPA of 3.65 or higher.

Organizations: SJSU Software & Computer Engineering Society, SJSU Society of Women Engineers, SJSU Girls Who Code

PROJECT EXPERIENCE

AWS - Serverless Email Marketing Application *July 2024*

- Automated customized email campaigns handling up to 1,000 subscribers built upon AWS; deployed five different AWS services including Amazon SES, EventBridge, S3, Lambda, and Identity/Access Management (IAM).
- Improve issue resolution time by ~15%; benchmarked up to 10 vectors for monitoring and logging, including key system metrics, application performance, and operational metrics; minimized issues during email campaigns.
- Built features for email dispatching and event management; include contact storage and access management

Machine Learning Model for Molecular Solubility Prediction *July 2024*

- Improved model accuracy by achieving an R^2 score of 0.79 with linear regression; 14% increase in predictive accuracy after the improvements when compared to a baseline R^2 score of 0.65 from previous models.
- Built a machine learning model to predict molecular solubility using Python's Scikit-Learn library; employed linear regression techniques + data splitting strategies to analyze and predict solubility based on molecular properties.
- Conducted comprehensive model comparison to evaluate performance metrics and accuracy by implementing data visualization techniques to illustrate key findings and insights from the dataset and integrating model evaluation metrics such as Mean Squared Error (MSE) and R^2 score to assess and validate model performance.

Google Chrome Extension - Pomodoro Timer and To-Do List *June 2024*

- Published a fully featured Google Chrome extension on the Google Chrome Web Store with over 275 installations and growing; developed using JavaScript, HTML, and CSS to create a Pomodoro timer with integrated to-do list functionality + React.js and TypeScript to build a dynamic and type-safe user interface.
- Released 1-2 updates and bug fixes per month to target UI improvements, compatibility issues, and performance optimization based on user feedback to maintain a high quality bar.
- Implemented features including customizable task management, adjustable time tracking, and visual and audio alarm notifications for study and break intervals to enhance productivity for users.

Artificial Societies on SimStation *April 2024*

- Collaborated with two students to develop a multi-agent simulation framework in Java, enabling complex agent-based interactions; led the development of the Prisoner's Dilemma Tournament customization within the group by designing a simulation where agents engage in repeated games of Prisoner’s Dilemma using varied strategies to study the evolution of cooperation and competition, with fitness scores tracking their success.
- Built upon the existing Model-View-Controller (MVC) architecture, ensuring a clean separation of concerns and modularity. Implemented components to facilitate user controls as well as model visualizations and statistics; applied software patterns such as Observer to enable dynamic UI updates based on simulation state changes, Strategy for diverse agent behaviors, and Factory for scalable component creation.
- Addressed challenges in managing agent concurrency and event handling by implementing an efficient event-driven architecture that allows agents to interact seamlessly within the simulation environment and including advanced control functionalities for users to monitor the progress of simulations in real-time with smoother graphics.

SKILLS

- **Programming Languages:** Java, Python, JavaScript, HTML, CSS, SQL, Typescript
- **Frameworks & Libraries:** Next.js, React.js, Tailwind CSS, BeautifulSoup, Sckit-learn
- **Tools & Platforms:** GitHub, Git, AWS, Google Colab, Figma, StarUML, Matlab
- **Relevant Coursework:** Object Oriented Design, Speech Technology, Data Structures, Formal Languages