

Nicole Lee

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EDUCATION

University of California, Berkeley

Berkeley, CA

B.S. in Electrical Engineering and Computer Sciences, Minor in Physics

Aug. 2023 – May 2027

- Regents' and Chancellor's Scholar - Awarded to the Top 1%
- **Courses:** Data Structures, Machine Structures, Efficient Algorithms and Intractable Problems, Computer Security, Designing Information Devices & Systems I&II, Structure & Interpretation of Computer Programs, Discrete Mathematics & Probability Theory
- **Activites:** Full-Stack @ Web Development at Berkeley, Frontend @ BerkeleyTime, Computer Science Mentors

EXPERIENCE

Software Development Engineering Intern

May 2024 – Aug. 2024

Amazon

Bellevue, WA

- Supply Chain Optimization Technologies - Fulfillment Optimization
- Designed an API in Java that auto blocks configuration changes by modifying DynamoDB databases
- Implemented an MVC framework in Node.js/Javascript to allow users to auto-block on the internal dashboard
- Improved API efficiency/scalability by performing validations, integration/unit tests, and collaborating with cross-functional teams to enhance system robustness, ensuring reliable service for millions of global Amazon users
- Saved 6 weeks of manual work annually, optimizing delivery speed/efficiency for 180+ million Amazon Prime shoppers (and more on future Prime Days)

Machine Learning Research Intern

Jan 2024 – May 2024

Climformatics

Berkeley, CA

- Engineered a Seq2Seq model which achieved a 95% accuracy rate in 6-hourly Heat Stress Index forecasts, significantly improving the predictiveness of climate impacts on energy demand and wildfire risks
- Trained and validated location-specific ML models (2015-2021 data) with custom hyperparameters in summer 2022
- Tested and compared autoregressive and direct prediction approaches for forecasting

AI Rover Embedded Systems Engineer

Sept. 2023 – Dec. 2023

Space Technology At California

Berkeley, CA

- Constructed and analyzed circuits and components (designed 6 motors and 5 arm motors through CAN) for radio transmitters/receivers and optimize power usage by 300%
- Define and implement communication protocols for up to 2km of data exchange
- Implemented fault-tolerant control algorithms to ensure system reliability during extended operations

PROJECTS

Notion Replica | *React, Next.js, Chakra UI, APIs, Postman, MongoDB, Docker, HTML/CSS, Figma*

- Developed a Notion replica using Next.js and Chakra UI, creating both the frontend and backend
- Utilized REST API operations with MongoDB and Node.js for seamless data management
- Gained proficiency in Postman for building and testing APIs, ensuring robust functionality and performance

S1XT33N - Voice-Controlled Car | *Python, MATLAB, Arduino, Circuit Design, PCA, Control Systems*

- Engineered a voice-controlled car by designing and integrating analog sensors, audio processing circuits, and motor control systems, including DAC/ADC converters
- Applied Principal Component Analysis with 98% accuracy for real-time voice command classification/clustering
- Tuned closed-loop control systems to ensure precise navigation and responsiveness to voice commands

Plant Diseases Image Classification | *Python, Tensorflow, Artificial Intelligence, Computer Vision*

- Developed a deep convolutional neural network that optimizes plant disease detection with 97% accuracy
- Gained proficiency in Classification, Regression, Neural Networks, Neural Nets for Classification, Learning Features, Deep Fakes, Reinforcement Learning, Vision and Language, Ethics, Search, Probabilistic Models

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL, JavaScript/TypeScript, HTML/CSS, RISC-V, Scheme (LISP)

Frameworks: React, Node.js, Flask, JUnit, WordPress, Express.js, Django, RESTful API, Next.js

Developer Tools: Git, Docker, Firebase, IntelliJ, VS Code, Linux, Amazon DynamoDB / S3, PostgreSQL

Libraries: pandas, NumPy, Matplotlib, PyTorch, Tensorflow, Scikit-learn