Eric Du

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EDUCATION

University of California, Davis — Davis, CA
Bachelor of Sciences in Computer Science — GPA: 3.7/4.0 — Sep. 2020 – Dec 2023
- Coursework: Deep Learning, Design Patterns, Computer Networks, Computer Vision, Operating Systems, Databases, System Design

EXPERIENCE

Full Stack Engineer | *Vue.js, PHP, AWS Lambda, FastAPI* — Apr 2023 – Present
UCDavis Plant Sciences — Davis, CA
- Developed weather models and RESTful APIs with **FastAPI**, **AWS Lambda** and **Python**. Data was fetched from local weather stations to predict optimal planting dates pipelined into **Vue.js** component on a **Drupal** frontend.
- Implemented a database of over **60,000** research papers with fuzzy search on metadata with **MySQL** and **AWS**.
- Integrated OpenStreetMap onto weather station model displaying around **200** weather stations

Full Stack Engineer | *React, React Native, GoLang, NoSQL* — Sep. 2022 – Dec 2023
AggieWorks — Davis, CA
- RoomU: Implemented image caching, boosting image loading times by **1500%** along with generic UI components, and a matching algorithm with **23** analytical features on a React Native app.
- AggieExchange: Developed pagination, image caching, **12** analytics for commonly used interactions, and safe user to user messaging using **Socket.io** deployed on a **Next.js** framework.
- Managed the main site aggieworks.org with Astro and Tailwind

Teacher's Assistant | *React, FireBase, Python, Java, C++* — Sep. 2018 – Jun 2020
NEA Community Learning Center — Alameda, CA
- Managed a React/Firebase class website for code submission and auto-grading with comprehensive test cases.
- Facilitated discussions and tutored a class of 40 students on Python, Java, and C++.
- Graded and planned 2 major projects and created worksheets on Object Oriented Programming.

PROJECTS

Machine Learning Fish Classification | *Python, Flask, TensorFlow* — Sep 2023
- Created a CNN model for fish classification with **100%** accuracy and 6 million parameters. Achieved comparable accuracy using only **25%** of ResNet-50 parameters and **42.8%** of VGG-16 parameters.
- Developed a website to upload fish images to classify and report accuracy of each class of fish.
- Experimented with transfer learning, hyper parameter tuning, early stopping, and image normalization.
- Earned 2nd place in project and research rankings for class of 36 groups.

Slap Fret | *React, Next.js, Tailwind, Pinecone.io, MySQL* — Dec 2023 – Present
- Deployed an educational guitar application for storing tabs, chord progressions, display scales, and string theory.
- Created interactive and responsive fret board that displays all known tuning and up to 8 strings.
- Implemented account authentication and tab library with a favorites tab library.
- Developed tab player for stored tabs.

TECHNICAL SKILLS

Languages: Python, C/C++, SQL (PostgreS, NoSQL, MySQL, GraphQL), JavaScript, HTML/CSS, GoLang, Java, PHP
Frameworks and Technologies: React, React Native, Vue, Node.js, Flask, Material-UI, FastAPI, Next, Astro, Apache, Drupal, MongoDB