Carla Hau

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Education

University of California, Riverside — June 2028
Bachelor of Science in Computer Science with Business Applications — GPA: 4.0
Relevant Coursework: Introduction to Data Structures and Algorithms, Software Construction

Skills

Languages: Python, Javascript, HTML, CSS, Typescript, C++
Technologies: React.js, Next.js, FastAPI, Pytest, Cypress, PostgreSQL, Firebase, Tailwind CSS, MaterialUI
Developer Tools: Git, Docker, Visual Studio Code, Postman, GitHub Actions

Experience

Amazon Web Services, Inc., Bellevue, WA — June 2025 – September 2025
Software Development Engineer Intern

- Developed internal Python automation tool for a SageMaker team, reducing manual work during ticket handling by 98%.
- Optimized tool runtime by 90% by refactoring sequential operations into concurrent execution with Python's concurrent.futures library.
- Extracted and processed real-time usage metrics from Amazon CloudWatch via boto3 API, reducing time spent on manual data collection by 98%.

Constellation Technologies, Remote — August 2024 – January 2025
Front End Junior Software Intern

- Built digital hub for student entrepreneurs who raised $40,000 in investments.
- Developed and maintained 20+ reusable React.js components to display tasks, schedules, and user dashboards.
- Implemented Firebase to store user-submitted form data and EmailJS integration for automated notifications to executive team.

Leadership Experience

Cutie Hack at UCR, Riverside, CA — September 2025 – November 2025
Lead Software Engineer

- Reduced configuration time by 97% by developing a Python Discord bot to automate channel, role, and category creations.
- Co-led development of responsive Next.js landing page with TypeScript and Tailwind CSS, driving 200+ hackathon registrations.
- Co-managed team of 6 developers through sprint planning and delivery, ensuring on-time deployment of landing page and registration system.

Projects

SantaMatch | Next.js, Typescript, FastAPI, PostgreSQL, Tailwind CSS, Prometheus, Docker, Postman

- Facilitated randomized pairings for Secret Santa groups by developing a full-stack web app (Next.js frontend, FastAPI backend, PostgreSQL database) with exclusion-constraint handling and one-time-reveal enforcement.
- Automated database cleanup with AWS Lambda and EventBridge to delete entries older than 30 days, eliminating manual maintenance.
- Achieved 100% endpoint coverage with Pytest integration tests and ensured UI reliability with Cypress E2E tests; automated CI pipeline with GitHub Actions to run E2E and integration tests and Prettier formatting checks, ensuring regression-free deployments.
- Integrated Prometheus for request monitoring and enforced type-safe data validation with Pydantic schemas.
- Designed PostgreSQL data models with SQLAlchemy; implemented Redis-based rate limiting to prevent brute-force attacks.

Fotolab | React.js, Supabase, Vercel

- Developed a web-based photo booth, enabling users to capture and download photo strips.
- Successfully pitched web app to events with 100+ participants, generating social media content.
- Developed frontend using React.js and deployed on Vercel, integrating PostgreSQL database via Supabase to store anonymized, aggregated usage metrics.

Honors/Awards

Amazon Future Engineer Scholarship Recipient, 1x Chancellor's Honor's List, 4x Dean's Honor's List