Taisia Mertz

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EDUCATION

University of Southern California — Los Angeles, CA
Bachelor of Science in Computer Science — May 2025

WORK EXPERIENCE

RevSend — Los Angeles, CA
Software Engineer — April 2024 – August 2024

- Redesigned and developed company landing page and marketplace using React, implementing responsive design principles and reusable component architecture, resulting in a 45% increase in user engagement and 15% boost in sales conversion rates
- Implemented GraphQL queries and mutations to streamline data fetching, reducing API calls by 30% and improving application load time by 25%
- Integrated Salesforce APIs to synchronize customer data, enabling sales teams to track metrics more efficiently and ensuring compliance with Salesforce certification requirements

Booz Allen Hamilton — Washington, DC
Software Engineer Intern — June 2023 – August 2023

- Created a scalable Python data pipeline to process and analyze millions of publications from PubMed and PMC APIs, identifying over 5,000 relevant unreported publications and improving data extraction efficiency by 40%
- Designed and implemented a serverless solution using AWS Lambda, API Gateway, and DynamoDB, incorporating data validation and deduplication logic to ensure data accuracy at scale

National Institutes of Health — Bethesda, MD
Software Engineer — April 2023 – June 2023

- Developed and optimized a Python program utilizing NumPy, Pandas, and Matplotlib to analyze voltage gating behavior in ion channels, handling large electrophysiological datasets, enhancing researcher analysis speed
- Implemented efficient algorithms and parallelized data processing using Python's multiprocessing and concurrent.futures libraries, distributing computationally intensive tasks across multiple CPU cores

PROJECTS

AI-Powered Greenhouse Management System | USC Makers — May 2023 - April 2024

- Led a team of 8 engineering students to develop a scalable, automated greenhouse system integrating IoT sensors with a TensorFlow-based plant monitoring model
- Built a full-stack application using React, TypeScript, and MongoDB to manage plant growth data and control environmental systems integrating custom APIs for data retrievals from IoT sensors and weather services
- Engineered a scalable machine learning pipeline using TensorFlow and Keras, integrating a Convolutional Neural Network (CNN) into an IoT system for real-time plant health assessment, which reduced manual monitoring efforts by 60%

Unbiased Product Review Summarizer — January 2024 - April 2024

- Developed an Natural Language Processing (NLP) model using Hugging Face Transformers and PyTorch to generate concise, unbiased product review summaries
- Built a data pipeline using BeautifulSoup, Scrapy, and Pandas to scrape and analyze over 350,000 reviews from e-commerce platforms to train and evaluate the model

Automated Class Registration System — October 2022 - February 2023

- Designed a system to monitor class availability at USC, providing real-time notifications and automatically registering users for classes upon availability
- Utilized Flask, React, and PostgreSQL to build application, hosted on AWS EC2, with notifications via Twilio SMS API

SKILLS

Programming Languages: Python, JavaScript, Java, Go, TypeScript, C++, C#, SQL
Web Technologies: React, React Native, Flask, Django, Node.js, GraphQL, RESTful APIs, NoSQL Databases
Tools & Frameworks: GitHub, AWS (EC2, Lambda, S3, API Gateway), Docker, TensorFlow, PyTorch, NumPy, Pandas