

# Winbert Zhang

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## EDUCATION

### University of California, Santa Barbara

*B.S. in Computer Science*

Expected Graduation June 2025

*GPA: 3.86/4.00*

**Relevant Coursework:** Software Engineering, Algorithms and Data Structures, Object-Oriented Programming, Computer Architecture, Operating Systems, Networking, Databases, Machine Learning, Probability and Statistics

## EXPERIENCE

### Software Engineer Intern

June 2024 – Present

*Vitu*

*Agoura Hills, CA*

- Developed Generative AI document processing pipeline on Google Cloud Platform for millions of PDFs monthly, increasing auditor efficiency by 30% through automated classification and verification of key document fields.
- Achieved 99% document verification accuracy on test data by implementing several ML approaches.
- Built C# API for key-value extraction, reducing manual entry times and increasing processing speed by 40%.
- Implemented data security protocols using Google DLP API to safeguard sensitive document information.

### Website Developer Intern

June 2023 – June 2024

*UCSB Health and Wellness Department*

*Santa Barbara, CA*

- Developed an app for inventory management, reducing staff time spent on inventory tracking tasks by over 50%.
- Implemented caching to optimize performance, reducing database query time by 30% and speeding up load times.
- Automated inventory updates with SendGrid API, ensuring timely email alerts to minimize supply shortages.
- Implemented Google OAuth for secure authentication, enhancing security and simplifying user management.

### Software Developer Intern

June 2022 – Sept 2022

*X-Camp Academy*

*San Jose, CA*

- Streamlined Learning Management System functionality using Java and Vue.js to improve operational efficiency, cutting time spent on course and user management by 30% and enabling staff to complete tasks twice as fast.
- Built scalable REST API endpoints, cutting data retrieval time by 25% and supporting future system growth.
- Achieved 100% code coverage with automated unit and integration tests, reducing manual testing efforts.
- Automated migration from spreadsheets to database, reducing manual entry and saving admin time by 40%.

## PROJECTS

### Appfolio Anomaly Detection Capstone | *React, Flask, PostgreSQL, Machine Learning*

Sept 2024 - Present

- Developed a machine learning anomaly detection system using Isolation Forest and Autoencoders to classify anomalous transactions; improved model accuracy through hyperparameter tuning and feature engineering.
- Built a full-stack web application with React frontend and Flask backend, featuring a dashboard to visualize transaction history, anomaly scores, and model insights, with secure Google OAuth login integration.
- Built scalable PostgreSQL database for 5M transactions, streamlining data storage and retrieval for bulk analysis.
- Deployed model to a Linux server with Docker, supporting real-time predictions of up to 100 requests per second.
- Worked with AppFolio mentors in sprints to build and refine the project, enhancing features based on feedback.

### Smart Split | *Next.js, React, Typescript, Firebase, Generative AI*

August 2024

- Developed receipt expense tracking and splitting web application to convert receipt images into structured JSON data, enabling automated bill splitting for college students and reducing manual expense tracking by 80%
- Integrated Google Generative AI (Gemini 1.5) API for accurate extraction and classification of receipt items.
- Managed Firebase backend for secure user authentication, real-time database updates, and scalable data storage.
- Incorporated user feedback to refine features, improve usability, and address common pain points.

## SKILLS

**Languages:** Java, Python, C++, C#, SQL, JavaScript (ES6+), HTML, CSS, TypeScript

**Frameworks & Tools:** Next.js, Vue.js, Spring Boot, .NET, Flask, Express.js, Tailwind CSS, PyTorch, Docker

**Cloud & Databases:** Google Cloud Platform (GCP), AWS, PostgreSQL, MySQL, MongoDB, Firebase

**Leadership & Roles:** Co-President of UCSB TASA, Active Member of UCSB Theta Tau