Winbert Zhang

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EDUCATION

University of California, Santa Barbara — Expected Graduation June 2025
B.S. in Computer Science — *GPA: 3.86/4.00*
Relevant Coursework: Software Engineering, Machine Learning, Algorithms and Data Structures, Object Oriented Programming, Computer Architecture, Networking, Databases, Linear Algebra, Calculus, Probability and Statistics

EXPERIENCE

Software Engineer Intern — June 2024 – Present
Vitu — *Agoura Hills, CA*
- Integrated Generative AI into processing pipeline for 600,000 documents monthly to reduce auditing time by 50%.
- Achieved 99.7% accuracy in document verification rate by researching and testing different ML approaches.
- Optimized data processing with Python cloud functions to ensure scalable handling of user-submitted PDFs.
- Developed an internal API with C# to extract key-value pairs from PDF documents and enable automation.

Website Developer Intern — June 2023 – Present
UCSB Health and Wellness Department — *Santa Barbara, CA*
- Developed Flask and NextJS web app for office supply management involving over 100 items and equipment.
- Established robust PostgresSQL database model and schema encompassing multiple tables and columns.
- Integrated automated email alert system deployed on Heroku using Python Requests and SendGrid emailing API
- Implemented secure user authentication through Google OAuth to manage the sign-in process for admins and users

Software Developer Intern — June 2022 – Sept 2022
X-Camp Academy — *Remote*
- Developed new features for Learning Management System, serving 100 students, 30 teachers, and 10 admins.
- Designed several REST API endpoints using Java Spring framework to perform CRUD operations on database.
- Updated codebase with automated unit, integration, and end-to-end testing to ensure 100% code coverage.
- Imported 1000+ student records into database with Python and SQL scripts and performed data validation.
- Leveraged Agile scrum meetings to collaborate effectively with manager and fellow team members.

PROJECTS

Smart Split | *Next.js, React, Typescript, Firebase, Generative AI* — Sept 2024
- Developed a Next.js web application that uses a multimodal LLM pipeline 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 model) API for efficient extraction and classification of receipt items
- Managed scalable Firebase backend to manage user authentication, data storage, and real-time site updates

Human Development Index | *Python, Numpy, Pandas, Altair, Matplotlib, Seaborn, Scikit-Learn* — Sept 2023
- Leveraged data from multiple datasets on the OurWorldInData website, encompassing over 100,000 rows and various columns, to conduct a comprehensive analysis of variables to predict human development index.
- Executed data pre-processing by locating missing values and removing approximately 500 rows of incomplete data.
- Developed linear regression model and attained strong performance from MAE, RMSE, and an R^2 of 85%
- Conducted a comprehensive model comparison, evaluating various regression models, including Linear Regression, Ridge, Lasso, Random Forest, Gradient Boosting, and Support Vector Regressor, in terms of R-squared and RMSE

GauchoCourses | *Java, Maven, Spring Boot, Vue, Node, AWS, MongoDB, Git* — Nov 2022
- Developed UCSB course planner app and launched to campus-wide audience, receiving 1000+ users
- Connected Spring Boot backend to UCSB Gold API to retrieve and display data for 3000+ courses
- Led team meetings and provided hands-on debugging office hours to facilitate application development
- Optimized deployment using AWS EC2 and MongoDB, resulting in a 20% reduce in cloud computing costs

SKILLS

Languages: Java, Python, C++, C#, SQL, JavaScript, HTML, CSS, TypeScript
Frameworks: NextJS, Vue, Spring, .NET, Flask, AWS, GCP, Tailwind, PyTorch, Docker, PostgreSQL, MongoDB
Developer Tools: Git, Bitbucket, Jira, Visual Studio, IntelliJ, Eclipse, Postman, MySQL, Apache Maven, Slack
Leadership: UCSB TASA Co-President, UCSB Data Science Club Officer, UCSB Theta Tau Active Member