

# Amit Anantrao Patil

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## EDUCATION

### California State University, East Bay, Hayward, California

May 2025

Masters of Science in Computer Science (GPA: 3.6/4)

**Relevant Courses:** Advanced Algorithms, Web Systems, Cybersecurity, Theory of Computation, Operating Systems Design, Machine Learning, Advance Artificial Intelligence, Database & Management Systems, Computer Networks.

## TECHNICAL SKILLS

**Programming Languages:** Python, C++, Java, JavaScript

**Databases:** MySQL, PostgreSQL, MongoDB, Snowflake(worked on caching and high-performance data retrieval)

**Frameworks & Tools:** Flask, Django, Node.js, Express.js, Airflow, REST APIs, Streamlit, Tableau

**Cloud Technologies:** AWS (S3, EC2, Lambda, RDS), Google Cloud (Compute Engine, BigQuery, Cloud Functions)

**AI & Machine Learning:** LLMs , RAG , Vector Databases, Image Processing, Reinforcement Learning, PyTorch, TensorFlow, Prompt Engineering, Fine-Tuning, Backend AI Services.

## WORK EXPERIENCE

### California State University, East Bay

2024

*Student Assistant*

- Built and maintained autonomous Duckiebots using NVIDIA Jetson Nano and ROS for real-time navigation and obstacle detection in Duckietown environments.
- Documented and streamlined assembly procedures and coding standards for robotics lab, resulting in a 30% reduction in setup time for new systems.

### Kipi.ai

2023

*Senior Software Engineer*

*Remote*

- Reduced cloud data warehousing processing time by 40% by implementing optimized data flow pipelines and enhancing storage utilization.
- Migrated high-volume data from RDS to Snowflake using Airflow, decreasing reporting latency by 20% and allowing for real-time analytics.

*Software Engineer*

2022 - 2023

- Spearheaded the development of a Data-Ops pipeline, applying Agile and DevOps practices to reduce deployment failures by 30% and increase delivery speed by 20%.
- Partnered closely with stakeholders to define project scopes, leading to a 25% reduction in project timeline and a 15% boost in customer satisfaction.

## PROJECTS

### AI Learning Assistant | GitHub | 100+ hours

- Developed a Zoom-based chatbot that summarizes lecture content, generates quizzes, and offers additional learning resources using Fireworks AI and Qdrant.
- Implemented seamless integration with Zoom APIs to provide real-time lecture summaries and resource generation, enhancing student engagement.
- Built an architecture using LlamaIndex for data organization and vector search capabilities with Qdrant for fast and relevant information retrieval.

### Podcast Scraper and Transcriber | Github | 60+ hours

- Built a web scraper and transcription service for podcasts, using APIs (Spotify, Apple Podcasts) and integrating Streamlit for front-end interfacing.
- Developed backend automation to streamline transcription processes and enhance accuracy, resulting in a 20% reduction in manual editing.

### Code Modification Assistant (CodMod) | GitHub | 80+ hours

- Developed an AI-powered code modifier to assist developers in refactoring, optimizing, and enhancing codebases efficiently.
- Integrated a Reflection Workflow with two agents: Agent 1: Generates modified code based on user input using the Qwen2.5-Coder-32B-Instruct model with a flask backend. Agent 2: Reviews the generated code, provides feedback, and refines the code for accuracy and best practices.
- Executed code securely in real-time through the E2B sandbox for instant validation and debugging.
- Implemented Memo.ai to save memory states, allowing context-aware suggestions and maintaining a history of interactions.