ARYAN SHELKE

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EDUCATION

SAN JOSE STATE UNIVERSITY [sjsu.edu] ***Jan 2025 - June 2027 (Expected)***
M.S. Artificial Intelligence **GPA: 3.76**
Relevant Coursework: AI and Data Engineering, Machine Learning, Reinforcement Learning, Deep Learning

UNIVERSITY OF CALIFORNIA, DAVIS [ucdavis.edu] ***Sept 2021 – Dec 2023***
B.S. Computer Science **GPA: 3.93**
Relevant Coursework: Data Structures & Algorithms, Operating Systems, Computer Architecture, Computational Linguistics

SKILL

- **Languages:** Python, JavaScript/TypeScript, C/C++, SQL
- **Frameworks:** React, Next.js, Node.js, Express.js, Flask, FastAPI, Tailwind CSS
- **Data Storage:** MongoDB, PostgreSQL, Prisma ORM, AWS S3, Cloudflare R2
- **Software:** GitHub, Docker, Kubernetes, Vercel, Railway, Porkbun, Figma
- **AI/ML:** Pandas, Matplotlib, Scikit-learn, PyTorch, TensorFlow, OpenAI API

EXPERIENCES

SAN JOSE STATE UNIVERSITY [sjsu.edu] ***August 2025 - Present***
Graduate Research Assistant - Connected Autonomous Systems

- Conducted a comprehensive literature review on reinforcement learning for connected autonomous driving (V2V/V2X focusing on occlusion-aware, shared-sensing perception and mapping
- Built a structured taxonomy of approaches (single vs multi-agent and centralized/decentralized execution) and compiled benchmarks relevant to occlusions, safety, and bandwidth
- Synthesized gaps and opportunity areas such as communication efficient policy learning and occupancy grid sharing to define directions for a novel research contribution and evaluation plan

RETHINK YEARBOOKS STARTUP [rethinkyearbooks.com] ***June 2025 - August 2025***
AI Engineering Intern - Computer Vision

- Built an AI-powered photo processing pipeline using ArcFace and Python to automatically tag thousands of yearbook images with student identities and contextual metadata
- Developed a recommendation system to rank and select top photos per student based on visibility, emotion detection, and diversity, ensuring balanced representation
- Automated personalized video story generation with FFmpeg and MoviePy integrating transitions, text overlays, and music for school-wide deployment
- Deployed a scalable infrastructure on AWS Lambda, CloudFront, and S3 and built a React/FastAPI dashboard to deliver and manage per-student video stories

PERSONAL PROJECTS

TRENDSCOPE [github.com/aryansh3lke/trendscope] ***Feb 2025 – Mar 2025***
Stack: *Next.js, TypeScript, FastAPI, Python, OpenAI, Selenium, MongoDB, Tailwind, Shadcn UI, Vanta.js*

- Performed abstractive summarization and sentiment analysis on the top 50 tweets from each top trend on X (Twitter) with the OpenAI API to give X users quick insights on current events, minimizing time spent scrolling
- Web scraped the top 10 trends and their tweets using Selenium's Chromedriver in Python, avoiding excessive scraping to not surpass X's strict rate limits and minimize overall costs for the deployed app
- Implemented a cron job to schedule periodic data scraping and analysis with FastAPI and utilized client-side caching in Next.js to significantly reduce the requests made to the MongoDB database to fetch the most recent data

YT REHASHED [github.com/aryansh3lke/yt-rehashed] ***June 2024 – Feb 2025***
Stack: *React Router, TypeScript, Flask, Python, OpenAI, Tailwind, Material UI*

- Prompt engineered ChatGPT-3.5 turbo with the OpenAI API to summarize YouTube videos and analyze content creators so that YouTube viewers can easily obtain information on videos and channels of interest
- Integrated a rotating proxy to prevent the production IP from being blocked when scraping video transcripts
- Developed a video downloader feature for users that want to download the summarized video by using Youtube-DL and FFmpeg to fetch and then merge the audio and video streams together for high resolutions that don't have both

ANIME RECOMMENDER [github.com/aryansh3lke/anime-recommender] ***May 2023 – Oct 2023***
Stack: *Next.js, TypeScript, Flask, Python, NextAuth.js, Prisma, Neon Postgres, Tailwind, Next UI*

- Trained KNN and SVD collaborative filtering models with Python's Surprise library to build recommender systems that suggest anime to anime fans similar to famous streaming services like Crunchyroll
- Extracted and cleaned up large Kaggle datasets of user ratings with NumPy and Pandas in a Jupyter notebook to enable insightful data visualization with Matplotlib and Seaborn to extract relevant input features
- Added authentication and data storage with NextAuth.js (OAuth), Prisma ORM, and Neon Postgres to allow users to save animes to their personal watchlist to refer back to them in the future