# ADITYA KUNTE

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## EDUCATION

**University of Illinois - Urbana-Champaign** **08/2025 - 05/2026**
*Master's, Computer Science*

**University of Illinois - Urbana-Champaign** **08/2021 - 05/2025**
*Bachelor's, Computer Science* *GPA: 3.86*

## SKILLS AND TECHNOLOGIES

C/C++, Python, React.js, SQL, Postgres, AI, Machine Learning, Systems

## PROFESSIONAL EXPERIENCE

**DSP Mutual Funds** **Mumbai, MH, India**
*AI Intern* *05/2025 - 08/2025*
- Developed a full-stack application called 'Hawkeye' using PostgreSQL, React.js, and Node.js for the trading compliance team
- Used JWT authentication, allowing authenticated users to view audio transcriptions, and query the database by known speakers and company names, streamlining access to organized audio data and improving review rates by 50%.
- Created and deployed a speaker diarization pipeline using FastAPI, which detected known speakers in conversations, improving the accuracy of speaker identification in audio data
- Scraped and created custom speech data from open-source resources (OpenSLR) and fine-tuned Whisper using LORA adapters, enhancing the model's performance in recognizing diverse speech patterns

**CreateLab** **Champaign, IL, USA**
*Undergraduate Research Assistant* *08/2024 - Present*
- Implemented a multi-threaded version of Python's 'pickle' module in C, improving serialization speed and efficiency.
- Created a custom thread-pool implementation to manage serialization tasks at the C level, enhancing task management and performance
- Utilized GIL management and C-level synchronization to create thread-safe resource access, ensuring reliable and safe multi-threaded operations

**Applied Research Institute** **Champaign, IL, USA**
*Software Engineer* *05/2024 - Present*
- Developed mealplot.com, a weight-tracking tool, using React for frontend and Postgres for the backend, enhancing user engagement by providing detailed nutritional insights.
- Built Flask API endpoints to serve user data to the React webpage, improving data retrieval efficiency.

## PROJECTS & OUTSIDE EXPERIENCE

**Board2Ticket - Hackillinois Hackathon (2025) Winners**
- Built an OpenCV + unsupervised learning pipeline to extract and classify whiteboard text/diagrams, improving documentation accuracy.
- Designed a pydub + Whisper-based workflow to segment, transcribe, and cluster discussions by topic for faster decision-making.
- Leveraged vision-language models to add semantic context, enhancing clarity and actionability of captured content.
- Automated GitHub issue creation via REST APIs, cutting manual task creation time.

**FundHub**
- Built FundHub, a free platform enabling users to chat directly with fund managers from multiple companies, addressing the lack of accessible expert interaction in the investment space.
- Engineered a Python web-scraper pipeline to extract and structure text and metadata from reputable financial news sources, ensuring a continuously updated knowledge base.
- Developed a web-page using React Node.js and chat-bot interface, allowing users to easily get insights on specific fund managers.
- Developed a translation and diarization system to download, transcribe, and segment YouTube videos of fund managers, enabling multilingual, speaker-specific insights.
- Implemented a LangGraph-powered RAG pipeline using Claude Haiku to deliver contextually relevant, citation-backed responses, enhancing user trust and engagement.

**Quantitative Trading Strategy**
- Identified opportunity by selecting 300 large-cap, high-volume S&P 500 stocks as the target universe for strategy development.
- Collected and organized data by retrieving 2022–2023 daily prices from Yahoo Finance API and extracting fundamentals (net income, shareholder equity) from EDGAR filings.
- Analyzed performance drivers by calculating volatility-adjusted momentum scores and ranking all stocks in the selection universe.
- Built and tested portfolios by constructing top-decile momentum portfolios, forming a systematic, data-driven equity selection framework for backtesting.

**Voice Clone**
- Created a marathi voice-clone after fine-tuning Meta's MMS (massively multilingual speech) text-to-speech AI model, achieving a commendable word-error-rate.
- Published and used a Kaggle audio dataset for training