Vedanta P. Somnathe

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Education

The University of Alabama, BS in Computer Science & Math | **GPA:** 4.00/4.00 — Aug 2028
- Resident Advisor, ACM Treasurer, Honors College, Research Apprenticeship Program, Blount Scholar

Experience

JustSync.ai | *ML Engineering Intern* — Mar 2024 – Aug 2024
- Fine-tuned ML Models by scraping 2500+ medical articles & research papers for data-retrieval
- Developed and launched company's React Native app and published on App Store and Google Play Store
- Created a keyword-based recommendation engine with LangChain & Gemini, increasing user interaction by 20%
- Indexed data into FAISS vector store at minimum cost and deployed all micro-services on Google Cloud Run (GCR)

BrdsAI | *Software Engineer* — Oct 2023 – Mar 2024
- Built an EHR platform linked to Epic Systems to store and query documents, patient interactions, and notes
- Increased file data types from 3 to 16 by engineering a scalable multi-document engine in the Next.JS web app

Indian Institute of Management, Indore | *Lead Developer* — Sept 2022 – Jan 2023
- Directed a team of 4 in developing a platform used by 2000+ Graduate students (Campus-wide)
- Simplified infrastructure and CI/CD by setting up cron-jobs using GCP and dividing micro-services with Docker
- Implemented: OAuth in university email, college dining menu updates, recreation center reservations, class scheduler

Research

Cherenkov Telescope Array | *UC Santa Cruz* — Jun 2023 – Aug 2023
- Optimized 3 pixel-reduction algorithms in the *CTAPipe* library to 98% accuracy in anomaly detection
- Created a logarithmic metric to evaluate cleaning efficiency in $\log(Size)$ vs. $\log(Energy)$ with team of 3

WRF Chem visualization engine | *Bulgarian Academy of Sciences* — Aug 2022 – Nov 2023
- Published and presented paper on performance optimization of weather forecasting models utilizing image chunking
- Optimized average latency to 0.02 seconds (FCP) on an SSR Framework utilizing a dummy-API approach; DOI Link

Projects

ReCall.AI | *Princeton University – Hackathon • Winner in 2 tracks* — Blog | Link | GitHub
- Engineered a multi-threaded app to remind Alzheimer's patients of their loved ones' names with facial recognition
- Stored vector embeddings (FlatL2) of faces and semantically searched using DeepFace in a PineCone Database

Agentix | *UA Innovate – Hackathon • Winner* — Link | GitHub
- Prototyped an AI-driven ticketing service that automatically assigns, notifies, and closes tickets with emails
- Used Firebase for live-time updates, Websockets for notifications, and Gemini for tool-calling & image-guided tickets

Storm | *Exun Intl. hackathon • Runners-up* — Link | GitHub
- Led a team of 3 to build a graphical brainstorming app with collaborative live cursors leveraging P2P Sockets
- Summaries and Conflict resolution by employing MistralAI with a sliding context window and few-shot sampling

Skills

Languages: TypeScript, Python, Go, C++, SQL, Rust, JavaScript, C, Java, Lua

Technologies: React, React Native, NextJS, Docker, FastAPI, ExpressJS, Remix, tRPC

Tools: Google Cloud, AWS, Pandas, Kafka, LangChain, SciPy, OpenCV, NumPy, PyTorch, JWT, BeautifulSoup

Databases: PostgreSQL, MongoDB, Redis, Prisma ORM, CockroachDB, Firebase, Supabase, PineCone, MySQL