Vedant Soni

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EDUCATION

Texas A&M University   Aug. 2024 – June 2028
Bachelor of Science in Computer Science, Minor: Engineering Entrepreneurship & AI in Business   *College Station, TX*
- Major GPA: 3.7/4.0
- McFerrin Startup Fast Pass Winner (1st place at TAMU's biggest entrepreneurship hackathon)
- Ideas Challenge Finalist (Top 1% of 4,500+ applicants, TAMU's premier entrepreneurship competition)

EXPERIENCE

Cognition   August 2025 – Present
Co-Founder & COO   *San Francisco, CA*
- Co-founded Cognition, an AI learning companion that adapts to how you learn best, backed by NVIDIA, Google DeepMind, and CMU LearnLab; managing unit economics, operational scalability, and strategic partnerships.
- Built proprietary hardware and software algorithms that enable real-time personalized learning interventions, leveraging multi-modal perception and reinforcement learning to boost retention by 40%
- Leading product development, growth strategy, and cross-functional operations to deliver a privacy-first platform that makes it possible to learn anything more effectively

RecReach   March 2025 – Present
Co-Founder   *College Station, TX*
- Co-founded a AI platform revolutionizing pickup sports coordination and local community engagement, supported by Google for Startups Program, Texas A&M Meloy Incubator, and the McFerrin Center for Entrepreneurship.
- Engineered the mobile app in React Native with a Firebase backend, integrating AI-driven matchmaking and game-setting features alongside a community-based in-game economy to incentivize participation and retention.

Adaptive Robotics and Technology (ART) Lab, Texas A&M University   April 2025 – Present
ML & Robotics Research Assistant   *College Station, TX*
- Developed deep reinforcement learning models (PPO) in NVIDIA Isaac Gym for autonomous agricultural robot swarms, achieving 35% improvement in task completion success rate over baseline methods for precision agriculture applications
- Designed biologically inspired multi-agent control policies using decentralized GNNs, enabling cooperative swarm behaviors with 25% better formation stability in unstructured outdoor environments

Design Innovation & Generative Intelligence (DIGIT) Lab, Texas A&M University Feb 2025 – August 2025
AI & Robotics Research Assistant   *College Station, TX*
- Engineered an advanced multi-agent, multi-modal system using fine-tuned GPT-4o models, LangChain-based vector search, and a custom retrieval-augmented generation (RAG) pipeline with triplet extraction to autonomously mine and structure knowledge from 12+ materials science databases
- Leveraged ChromaDB for scalable semantic search and embedding management to construct the largest open-source database for plastic compatibilizers, with goals of academic publication and public online release

PROJECTS

Fern - Accessible AI Communication Platform | *AAC, Speech Synthesis, LLMs*   March 2025
- Founded and built Fern, a nonprofit building an AI AAC system providing real-time communication support for nonverbal children with autism; scaled to 10,000+ users across Texas.
- Engineered sub-50ms latency speech pipeline by integrating Gemini LLM with ElevenLabs APIs into a scalable backend, improving communication efficiency by 60%; supported by AWS Activate.

Hive - Personal Agentic AI System | *Multi-Agent Systems, LLM Integration, IoT*   June 2025
- Built a personal AI assistant with personality-driven orchestration across Gmail, Calendar, and productivity tools. Powered by dual-LLM core (Llama 3 8B, Mistral 7B) and a custom workflow engine.
- Developed full-stack platform with voice-enabled control of 50+ IoT devices, enabling autonomous multi-agent execution. Additionally, developed custom coding CLI from scratch.

Eden - TURTLE Robotics | *Reinforcement Learning, Isaac Sim, Cognitive Architectures*   January 2025
- Lead a 15-member team developing humanoid robots (Adam & Eve) with cognitive architectures for naturalistic interaction.
- Designed and trained RL policies (PPO, SAC) in Isaac Gym/Sim, boosting motor precision by 40% and adaptation by 50%, while integrating attention + working-memory models for individualized social behavior.

TECHNICAL SKILLS

Programming Languages: Python, C++, JavaScript, TypeScript, Java, Rust, MATLAB
Machine Learning & AI: PyTorch, TensorFlow, Advanced RL (PPO, SAC, TD3), Computer Vision (OpenCV, YOLOv8), Transformer Architectures, LLMs (Hugging Face, LangChain, RAG), Model Optimization (LoRA/QLoRA)
Cloud & DevOps: AWS (EC2, SageMaker, Lambda), GCP, Docker/Kubernetes, MLflow, Weights & Biases