Kevin Doshi

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Education

Stevens Institute of Technology Hoboken, NJ
Master of Science in Computer Science; GPA: 4.0/4.0 Expected May 2027

Sardar Patel Institute of Technology Mumbai, India
Bachelor of Technology in Computer Engineering; GPA: 3.8/4.0 Nov. 2021 - Jun. 2025

Professional Experience

Explainable & Controllable AI Lab, Stevens Institute of Technology Hoboken, NJ
Graduate Research Assistant Oct. 2025 - Present

- Investigating critical vulnerability in $50M+ edtech platforms: static assessments mask cheating patterns and corrupt learning signals, making reliable skill measurement impossible.
- Developed IRT-based adaptive testing framework to combat academic dishonesty, utilizing real-time behavioral monitoring and 80-20 experimental splits to isolate authentic learning patterns from "gaming" behavior.
- Improved assessment reliability by 67% through a deployment across 200+ students, creating a robust tracking system for learning progression that is now being adopted by leading commercial EdTech platforms.

Indian Institute of Technology Bombay Maharashtra, India
Research Intern Jan. 2024 - Jun. 2024

- Mitigated cascading failure risks for Mumbai's 20M+ resident power grid by identifying a critical data crisis where missing interdependency mappings prevented fault tracing and left utilities blind to outages.
- Engineered a centralized analysis platform using real-time topology validation to monitor 50K+ interconnected components, integrating role-based access control and live change tracking for grid health.
- Reduced analytical turnaround from hours to sub-second queries for grid health monitoring and anomaly detection – platform currently under adoption review by TATA Power for citywide deployment.

Projects

SENTINEL - APT Watchdog | CyberSecurity, Machine Learning Oct. 2025 - Present
APTs execute multi-stage attacks over weeks via legitimate-looking system calls, evading signature detection. Modeled Windows activity as temporal provenance graphs and trained Temporal GNNs to capture slow-evolving attack patterns, achieving 92% detection accuracy on 99K+ event logs with interpretable attack-path visualization for security analysts.

WaveSplit Audio Denoiser | Deep Learning, Signal Processing Aug. 2024 - Mar 2025
Real-world speech systems degrade under non-stationary noise where traditional denoisers fail. Extended NVIDIA CleanUNet with SNR-aware adaptive filtering, harmonic-percussive decomposition, and psychoacoustic masking, achieving +2.3 dB SNR and +0.21 PESQ while maintaining low-latency streaming inference for production use.

Learnify (Winning Project-Devopia Hackathon) | NLP, Recommender Systems Mar. 2024 - Apr. 2024
Engineered multimodal learning platform with automated PDF-to-quiz generation, text-to-comic conversion, and sign-language video generation, delivering interactive study flows for diverse learners. Built quiz-conditioned recommendation engine mapping low-score topics to relevant videos via keyword extraction and topic embeddings, improving learning-path relevance by 22% across 500+ test queries.

DeepShield (Winning Project-Aeravat Hackathon) | Computer Vision, Audio Processing Jan. 2023 - Mar. 2023
As generative AI advances, deepfakes evade single-modality detectors under compression. Built multimodal pipeline fusing facial micro-expressions, audio artifacts, and linguistic patterns—achieved 96.13% accuracy on degraded content where unimodal approaches fell to 75%, enabling robust real-world detection.

Publications

A Multi-Stage Framework for Audio Enhancement and Audio Denoising: Developed a hybrid deep learning architecture for robust speech recovery in non-stationary noise. *(Under review at IEEE TASLP)*

Skills

Languages & Tools: Python, Java, SQL, TypeScript, CUDA, Git, Docker, Linux, RESTful APIs, Streamlit
AI & Machine Learning: LLMs, RAG, Agentic AI, HuggingFace, PyTorch, TensorFlow, ONNX, TensorRT, LangChain, CV, NLP
Data & Backend: Airflow, ETL/ELT Pipelines, Vector Databases (Chroma/Pinecone), NumPy, Pandas, FastAPI, Django, PostgreSQL, MongoDB

Volunteer Experience

- **Teaching Assistant, Distributed Computing** – Led labs for 60+ students on RMI, RPC, and clock synchronization; graded assignments and mentored systems projects.
- **Open Source Contributor** – Optimized performance and resolved documentation inconsistencies in core **pandas** and **scikit-learn** libraries, contributing to tools used by millions of developers globally.
- **Head of Finance, IEEE S.P.I.T. Student Branch** – Managed $15K+ budget, secured 8+ sponsors, and oversaw finances for 12+ technical events.