DHANUSH GOWDHAMAN

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Education

- **University of Pennsylvania, Philadelphia, PA** *Aug 2025 – May 2027 (Expected)*
  MSE, Computer and Information Science
- **PSG College of Technology, Coimbatore, India** *Aug 2020 – May 2024*
  BE, Computer Science and Engineering **CGPA: 3.93/4.0**

Work Experience

Course Development Assistant, AI Capstone - Penn Engineering Online *Oct 2025 – Present*
- Develop project-based content and assignments for a graduate AI Capstone course focused on building market-ready AI applications and products.
- Designed and implemented an AI-powered flashcard web app that auto-generates decks and validates user input; provide a scaffolded version as starter code with staged milestones for students to complete.

Software Developer, IBM India Pvt Ltd *Jul 2024 – Jul 2025*
- Developed an internal VS Code extension with LSP support and document parsing for navigation and ref-def; added Generative AI-based explainability for legacy languages, adopted by 50 users within 3 months.
- Migrated builds from a static machine to a CI/CD pipeline, containerizing stages with Docker and reducing dependence on a single machine.

Software Developer Intern, IBM India Pvt Ltd *Jan 2024 – Jun 2024*
- Deployed CICS TX on Cloud using Podman, Kubernetes, OpenShift, and AWS EKS, reducing maintenance overhead and saving 2 person-days of effort per quarter.

Projects

- **Flash-Decks (AI Flashcards Web App)** — Designed a full-stack flashcard platform with spaced repetition, exam mode, and progress analytics, driven by a clean React dashboard and RESTful backend. Implemented AI-powered deck generation and answer checking to help users create and validate study material faster. Flashcards-app
- **ASL Interpreter & Translator** — Built a system to translate ASL gestures to English and vice versa using TensorFlow, OpenCV, and LLMs. Implemented gesture video playback and NLP pipelines. ASL-Interpreter
- **Cybersecurity CTF Challenges** — Designed 25+ Linux, cryptography, DBMS, and Python challenges across 3 hackathons with 100+ participants. Led end-to-end event organization with PSG CSEA. Iris CTF, Aerovision CTF
- **Brand Prediction & Analysis** — Developed ML app for topic-brand classification (99% accuracy) using Multinomial Naive Bayes. Built GUI and REST API, containerized with Docker.

Technical Skills

Languages: Python, C/C++, Java, JavaScript/TypeScript, SQL
Frameworks & Libraries: React, Flask, Express, FastAPI, TensorFlow, scikit-learn, OpenCV
Databases: PostgreSQL
Tools & Technologies: Docker, Kubernetes, Podman, AWS (Cloud Practitioner), Linux, OpenShift, Tailwind CSS, LM Studio, LLMs, Cryptography tools

Publications

- "American Sign Language Alphabet Recognition using Teachable Machine", The 15th International Conference on Computing, Communication and Networking Technologies (ICCCNT), 2024.
  DOI: 10.1109/ICCCNT61001.2024.10725877

Achievements

- **1st Place** in Capture The Flag by CSEA, PSG College of Technology (2022); **2nd Place** in 2021.
- **Organized 3 Capture the Flag Events** with PSG CSEA; authored 25+ technical challenges.
- Delivered **3 cybersecurity workshops as keynote speaker**, covering Internet safety, OSINT, XSS, and encryption (100+ attendees).
- Secured **1st place in CAD/CAM challenge** at IIT Madras (2021–22).