Proneil Sengupta

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LinkedIn GitHub Portfolio

PROFESSIONAL SUMMARY

Full-stack developer and **third-year Electronics & Instrumentation Engineering** student with **hands-on experience** in building and deploying **scalable web applications** and **data-driven systems**. Proficient in **React, Node.js/Express, Django, AWS**, and **DevOps** practices (**CI/CD pipelines**, **automated testing**). Experienced in **integrating AI** and **machine learning** into academic and personal projects. Skilled at **writing clean, maintainable cod**e, working with **agile methodologies,** and quickly mastering new technologies to drive **impactful solutions**.

EDUCATION

Program	Institution	Grade	Year
B.E (Electronics and Instrumentation Engineering)	Siddaganga Institute of Technology	7/10 (CGPA)	2022 – 2026
High School	Bayside Christian College	75%	2020 – 2021

PROJECTS & WORK EXPERIENCE

- **Customer Service Associate, Woolworths, Supermarkets [Australia]**
  - **Assisted customers** at checkout counters and **8+ self-service kiosks**, providing **efficient transaction** support and **resolving queries**.
  - Operated the **POS system** at Woolworths, processing an average of **80** customer transactions daily with **minimal errors**, contributing to smooth and efficient checkout experiences for shoppers.
  - Resolved approximately **30 customer inquiries** daily regarding product availability and promotions.
  - Maintained a **resolution rate exceeding 90%** and contributing to **enhanced customer loyalty** and store reputation.
- **Robotic Hand**
  - Designed and built a **robotic hand** capable of performing yoga mudras using **4** servo motors and **5** precision-driven finger movements.
  - Programmed the system with **Arduino IDE** for standalone **microcontroller** operation; integrated LED display for **real-time mudra identification** in 5 second cycles.
- **AI-Powered Stethoscope (ongoing)**
  - Developing an **AI-based stethoscope** using ESP32 and INMP441 microphone to classify heart sounds and detect abnormalities across all **4** heart valves with an **accuracy** of up to **90%.**
  - Engineered real-time **spectrogram** analysis and offline **machine learning** inference. All firmware coded in Arduino IDE; models trained with **TensorFlow/Keras**.
- **Portfolio Website (React + Node.js Full Stack)**
  - Implemented a **personal portfolio** website using **React, Tailwind CSS, and Framer Motion**, featuring glitch animations and **dark/light mode toggle.**
  - Achieved a **Lighthouse score of 97** for **performance** and **accessibility**.
  - Built a **backend API** with **Node.js, Express**, and **MySQL** using **SQL ORM** for contact form submission.
  - Designed and integrated a **RESTful API** with **CORS** support and **environment** variable management.

SKILLS

Programming Languages

- C, C++ (for microcontroller firmware via Arduino IDE)
- Python (for data analysis, AI model training, and prototyping)
- MySQL (for Database Management, cloud computing)
- HTML, CSS, JavaScript (ES6+), React

Frameworks and Tools

- Node.js, Express, RESTful API, Tailwind CSS, Vue.js
- Arduino IDE, Git & GitHub, MATLAB, Unreal Engine
- Vercel, Railway, Framer Motion

AI & Machine Learning

- Deep learning model development using CNNs for heart sound classification
- Model training using TensorFlow and Keras

Large Language Models (LLM) and AI Services

- ChatGPT, Perplexity, Claude, DeepSeek, Cursor