PRONEIL SENGUPTA

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LinkedIn_GitHub_Portfolio

CAREER OBJECTIVES

To secure a position in a forward-thinking technology-driven organization where I can leverage my **engineering** background and strong foundation in **software development**, **full-stack** web technologies, and **embedded systems** to solve real-world problems. Passionate about building **scalable applications**, AI-integrated solutions, and data-driven systems that have meaningful impact. Seeking opportunities that foster continuous **growth** in cloud computing, **machine learning**, and **DevOps** practices. Committed to delivering high-quality, **maintainable code** and collaborating in innovative environments that align with long-term organizational goals.

EDUCATION

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

PROJECTS & WORK EXPERIENCE

- **Customer Service Associate, Woolworths, Supermarkets [Australia] –**
  - **Assisted customers** at checkout counters and more than **8** self-service kiosks, providing efficient transaction support and **resolving queries** in a high-traffic environment.
  - 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
  - Developed strong **communication and interpersonal skills**, achieving more than **80%** customer satisfaction.
- **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**.
- **AI powered Stethoscope (ongoing) –**
  - Developing an **AI-based stethoscope** using ESP32 and INMP441 microphone to classify heart sounds and detect valve abnormalities across **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)**
  - Orchestrated a responsive personal portfolio using **React, Tailwind CSS**, and **Framer Motion** with glitch animations and dark/light mode toggle
  - 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 **env** based 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

Embedded Systems & Tools:

- Arduino IDE (firmware development for ESP32 and other microcontrollers)
- ESP32, Arduino Uno, MEMS microphones (INMP441)
- Serial communication, sensor interfacing, and hardware debugging

AI & Machine Learning:

- Deep learning model development using CNNs for heart sound classification
- Model training using frameworks like TensorFlow and KERAS
- Embedded AI inference on low-resource devices

Other Tools & Technologies:

- Git & GitHub
- MATLAB basics
- Unreal Engine