

APOORVA SUNIL CHAKKAMALLISERY

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PROFILE

GitHub: github.com/apoorvas-523.

Portfolio: [apoorvas-523.github.io/apoorva-portfolio.](https://apoorvas-523.github.io/apoorva-portfolio/)

EDUCATION

Boston University, College of Engineering

Master of Engineering, Biomedical Engineering.

GPA : 3.59/4.00.

Recipient: College of Engineering Graduate Scholarship.

Boston, USA

Expected May 2026

Rangsit University

Bachelor of Engineering, Biomedical Engineering.

GPA : 3.55/4.00.

Pathum Thani, Thailand

Sep 2019 - May 2023

KEY SKILLS

Technical: Human-centered design, medical device lifecycle, rapid prototyping, 3D printing, Onshape, neural signals, QMS/FMEA, FDA 510(k)/EU MDR, Python, Basic deep learning (PyTorch, RNNs, CNNs) and MATLAB.

Project Management: Clinical needs assessment, Design thinking (SCAMPER, 5 Whys, Radial Thinking, Morphological Analysis), Pugh charts, Risk/feasibility analysis, IP/commercialization, Go-to-market strategy and Figma.

EXPERIENCE

Research Assistant

Digital Cognitive Neuroscience Lab: Dr. Maro Machizawa

Aug 2023 - Mar 2025

Tokyo, Japan

- Hiroshima University (Aug 2023 – Mar 2024): Project Moonshot; Institute of Science Tokyo (Mar 2024 – Mar 2025).
- Conducted 50+ EEG acquisitions using dry electrode headsets for cognitive neuroscience studies.
- Processed and analyzed EEG/ECG data using MATLAB and EEGLAB, applying signal processing and statistical analysis for ongoing research projects.

Product Specialist Trainee

Aesculap, B Braun Group Ltd.

Jan 2023 - May 2023

Bangkok, Thailand

- Supplied assistance in creating tenders, provided 2-3 product usage guidance, and managed an event.
- Demonstrated surgical products in surgical suite for 4-5 laproscopic surgeries and an open heart surgery.

PROJECTS

Improved Methods for Cerebral Spinal Fluid (CSF) management

Sep 2025 - Present

- Collaborated in a 4-member team on 50 hours of neurosurgery clinical immersion at Boston Medical Center, conducting clinician VoC interviews to identify unmet clinical needs.
- Synthesized clinical insights into 12 problem statements and user needs, prioritizing a medical device concept validated through design reviews with industry mentors.
- Co-developed the Product Design Specification (PDS) with human factors analysis, integrating FDA 510(k)/EU MDR considerations and communicating results to mentors and stakeholders.

Mind to Motion

Aug 2022 - May 2023

- Built EEG-based LSTM models to classify motor imagery vs. real hand movement for BCI applications; achieving 62.5% accuracy for imagery vs. action and 72.5% accuracy for rest vs. action classification.
- Preprocessed and analyzed neural signals, applied time-series modeling, and evaluated model performance using MATLAB and EEGLAB.
- Presented peer-reviewed work at IEEE BMEiCON '23 (Japan); received institutional research award.