Agniva Chaudhuri

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Summary

Undergraduate UIUC '28 Electrical Engineering student. Detail-oriented, creative/outside-the-box thinker, and a strong sense of "Yes we can". Interests include neurotechnology, RF applications, communications, and embedded development. Seeking internship and entry-level roles.

Education

University of Illinois at Urbana-Champaign Expected May 2028
Bachelor of Science in Electrical Engineering GPA 3.41/4.00

Skills

Electrical and Embedded: Circuits, embedded, microcontrollers, Raspberry Pi, Arduino, breadboarding, serial protocols
Programming and Software: Linux, Bash, Python, C, C++, Assembly, Julia, Java, Git
Tools: KiCAD, Autodesk Inventor, Microsoft Office, SimNIBS
Signal Processing and AI: Feature extraction, signal processing fundamentals, applied machine learning
Security and Cryptography: Cryptography fundamentals, cybersecurity fundamentals
Other: Business, entrepreneurship, negotiation, first aid, CPR, teamwork, teaching
Languages: English, Hindi, Bengali, German

Experience

Neurotech@UIUC, CortexCodec Subteam Champaign, IL
Brain-Computer Interface Developer Aug. 2025 – Present
- Designed brain-computer interface (BCI) methods to classify emotions across multiple axes using EEG-derived features
- Implemented feature extraction workflows for emotion-related signal characteristics to support model training
- Integrated multimodal signals (facial and voice-based cues) to support emotion classification and label validation
- Coordinated work across two 10-strong subteams to align timelines, responsibilities, and deliverables
- Extended prior implementations and prototyped approaches to improve classification performance and robustness

Illinois-Carle Joint Neural Engineering and Rehabilitation Laboratory Champaign, IL
Research Assistant, Neural Engineering and Stroke Rehabilitation Nov. 2024 – Present
- Supported research on stroke rehabilitation technologies for restoring function and improving patient quality of life
- Investigated approaches to promote neuronal pathway growth to bypass lesions and support motor recovery
- Collaborated with interns and a postdoctoral researcher to design experiments and document results
- Used SimNIBS and Brainstem Navigator to review neuroanatomical targets and support experiment planning

Illini EV Concept Champaign, IL
Electrical Design Team, Regenerative Braking Aug. 2024 – May 2025
- Contributed to the electrical design of a road-capable electric vehicle within a multidisciplinary team
- Supported experimental development of regenerative braking subsystem to convert vehicle kinetic energy to battery charge
- Worked on power electronics concepts including buck and boost conversion and subsystem integration considerations
- Collaborated in a four-person subteam to coordinate testing, documentation, and interface requirements

Robotics Club, Fayetteville-Manlius High School Manlius, NY
Outreach Manager; Technical Lead (Mechanical and Autonomous) Mar. 2022 – Jun. 2024
- Built partnerships with 3 libraries and 2 schools to promote robotics programs for K–12 students in the Syracuse, NY area
- Advocated for STEM education funding by engaging policymakers in Washington, D.C.
- Led mechanical team efforts (Jan 2023) and autonomous team efforts (Jan 2024) for FIRST robotics competitions
- Supported team operations management through coordination, planning, and task delegation

Academic Tutor, Freelance Syracuse, NY
Tutor, Math and Science Sep. 2022 - Jun. 2024
- Tutored 11 students in math and science topics; adapted instruction to individual learning goals and performance gaps
- Expanded client base through referrals and targeted advertising; managed scheduling, communication, and lesson planning

Chakraborty Group, Center for Science and Technology, Syracuse University Syracuse, NY
Research Assistant, Computational Chemistry Jun. 2021 – Jun. 2024
- Conducted computational chemistry research using Hartree-Fock and perturbation theory methods
- Analyzed lead sulfide quantum dot properties under varying conditions, including external electric fields
- Coauthored 3 research abstracts presented at the American Chemical Society (ACS) 2022 conference