AAYUSH GANDHI

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EDUCATION

Johns Hopkins University — **Baltimore, MD**
Bachelor of Science in Chemical and Biomolecular Engineering — *Aug 2019 – May 2023*

- Minor in Computer Science, focused on Applications and Systems/Interfaces
- Honors: Dean's List (2019-2023), Chemical and Biomolecular Engineering Departmental Honors. General University Honors
- Relevant course work: Dynamic Modeling and Controls, Data Structures, Computer Systems Fundamentals, Engineering Thermodynamics, Artificial Intelligence, Genomic Data Science, Transport Phenomena, Chemical and Biological Process Analysis
- Cumulative GPA: 3.81/4.00 (Major GPA: 3.84/4.00)

PROFESSIONAL EXPERIENCE

CraniUS LLC. — **Baltimore, MD**
Software Engineer 1 — *May 2022 – Present*

- Successfully obtained a software utility patent for groundbreaking contributions to the field of medical device communication and security protocols, as evidenced by the innovative work detailed in the patent titled "Medical Implant Software Systems and Methods".
- Developed and implemented automated Software-Bill-of-Materials generation and analysis tool for open-source software vulnerability auditing, surveying 8 repositories and 7 schemas, resulting in the discovery of over 150 critical vulnerabilities.
- Designed background notification payload delivery on SwiftUI framework, configured BLE bonding protocol for Nordic Semi interface to ensure ASCON-verified secure connection and connected front-end development for Device Firmware Upgrade (DFU) delivery and tracking.

Centre For Nanomedicine at Wilmer Eye Institute — **Baltimore, MD**
Undergraduate Research Assistant — *Apr 2020 – Dec 2022*

- Facilitated manufacture of ultra-thin, high strength, antibiotic-eluting sutures for prevention of ophthalmic infection, specifically vision-threatening microbial keratitis and endophthalmitis. Engineered trials on 10+ suture characteristics, including tensile strength, drug delivery rates, and binding properties. Won the JHU Provost Undergraduate Research Award for work in modulating environmental variables to improve reproducibility of design techniques.
- Pioneered a portable, Python/ElectronJS version of the Humphrey visual field analyzer test. Aided Dr. Kunal Parikh in systems validation runs and testing. Ran usability studies and internal testing with Aravind Eye Care system in South India.

Incoggo — **San Francisco, CA**
Python/Web Development and Marketing Intern — *May 2021 – October 2021*

- Spearheaded completion of incoggo.com landing page, with in-site animations, database design and content production.
- Constructed Reddit-based Auto Reply bot for scanning comment and post data for Medium.com (and derivatives) data links. Optimized runtime for program to allow for scan of 1200 sources and API timing issues.

SurvivingBreastCancer.org Inc. — **Boston, MA**
SEO and Web Development Intern — *May 2021 – October 2021*

- Designed and executed Python-based sales optimization strategies, including API integration with Hunter.io and Google Search, resulting in the generation of over 20,000 usable leads and domain searches and 35% increase in successful outreach campaigns.
- Implemented JSON-LD compatible databases and SEO infrastructure to generate 45 optimized webpages while concurrently managing multiple users, resulting in a 50% increase of page indexing visibility and load time improvements.

LEADERSHIP & EXTRACURRICULAR ACTIVITIES

Johns Hopkins University Residential Life — **Baltimore, MD**
Resident Advisor — *Jan 2021 – May 2023*

- Led incoming freshman/sophomore students in transitioning to an on-campus experience after virtual semesters. Collaborated to plan weekly community building events, service projects, and professional development seminars for residents.
- Counselled over 150 students on academic & personal concerns, incident/maintenance requests, and roommate agreements.

American Institute of Chemical Engineers (AIChE) — **Baltimore, MD**
Member and Student Research Assistant — *Aug 2019 – May 2023*

- Studied and analyzed thermodynamic data, equation dynamics and biomanufacturing and purification procedural data.
- Standardized and modelled procedure for data-visualization and analysis in the Visual MINTEQ programming medium.

SKILLS & INTERESTS

Languages: English (Native), Hindi (Native), Spanish (Conversational)
Computing: Proficient in Python, Java, C, C++, React, JavaScript, AWS, Azure, Swift, Django, PostgreSQL, Nordic Connect SDK
Technical Skills: Hypothesis Design, Wet-lab Research, Computational Optimization and Rapid experimentation/prototyping