

Sagnik Chakraborty

sagnikchakraborty212@gmail.com • (732)-618-9949 • github.com/RedFlame2112 • <https://quaternion-universe.vercel.app>
<https://www.linkedin.com/in/sagnik-chakraborty2112/>

EDUCATION

University of Illinois at Urbana-Champaign | Champaign, IL

Expected Graduation Spring 2025

B.S. Computer Engineering, Minor in Mathematics

Coursework: CS225, CS173, STAT400, MATH453, MATH257, MATH285, ECE120, ECE210, ECE220, ECE479, ECE391, ECE448/CS440, ECE 408, ECE 385*, ECE/CS 374*, ECE 422/CS 461*

* = will complete by Spring 2024 Semester

SKILLS & TECHNICAL TOOLS

Languages: Typescript (Primary), Rust, Python, SQL/GROQ, Javascript, C/C++, C#, Go, Terraform, x86/x64 ASM, Verilog

Technologies: Kubernetes, Microsoft Azure, CUDA, Azure DevOps, Git, AWS, SageMath, Matplotlib, Linux, NextJS, React, Sanity.IO, Vercel, .NET, ExpressJS, Tailwind CSS

Other Skills: AI/ML, Mathematical Argument, Proof-writing, Algorithms, Debugging/Test Driven Development, DevOps, Datamining

EXPERIENCE

HPC Software Architecture Intern | Cognizant Technology Solutions

Jun 2023 - Aug 2023

- Developed a solution for healthcare claims management and business logic for claims processing, and contributed to data mapping and test driven development
- Configured API endpoints via Terraform, managed compute clusters via Azure AKS (Kubernetes), and used Azure DevOps to create Kanban boards and AGILE-based methodologies/task delegations for processing data and pipelines.
- Worked with parsing large databases of services and claims offered in healthcare databases (SQL) and created mappings to more advanced healthcare data standards via the .NET Framework and the C# language.
- Set up an AGILE workflow for processing a variety of services and tasks that needed to be implemented to achieve goals for the business' clients. This also helped us keep track of the development process and plan our progress accordingly.

Founder/President of SIGHPC | ACM @ Illinois

Apr 2023 - Current

- Founder of ACM @ Illinois' dedicated group to high performance and cluster computing.
- Discussed meetings in current subjects related to supercomputing applications, low latency networking, and highly parallel programs/GPU computing, and the general state of the industry over the span of 8 months.

Social Director | IEEE UIUC Chapter

Apr 2023 - Current

- Planned, hosted, and publicized all of IEEE @ Illinois social events

Helper | SIGPwny

Aug 2022 - Current

- Participated in fuzzing research under a dedicated fuzzing team and automated fuzzers/processes to find bugs in companies (From 9/2/2023 onwards)
- Demonstrates ability to learn and implement new tools and technologies to solve relevant problems in cybersec/penetration testing, such as Cross-Site Scripting, BurpSuite, NetCat, SQLmap, Wireshark, and Webhook.site
- Participates in competitions like BuckeyeCTF and contributed to team placement of 2nd place overall, 1st in undergrad division (writeup on github)
- Internal Developer for the CTFd platform/training website as of December 2022

PROJECTS (more on github)

Personal Site | NextJS, Sanity.IO, Vercel | quaternion-universe.vercel.app

- Developed a personal serverless website/blog using the NextJS framework and Sanity.IO headless CMS.

GRADAR | IPython, Pytorch/Keras, ApacheSpark | [RedFlame2112/GRADAR-NIDS](https://github.com/RedFlame2112/GRADAR-NIDS)

- LSTM/CNN that classifies network packets captured over a cloud network (pcap format)

Wordle Optimality Analysis | Rust, Rayon Data-Parallelism Crate | [RedFlame2112/Wordle-Optimality-Analysis](https://github.com/RedFlame2112/Wordle-Optimality-Analysis)

- Datamined for 20 of the most optimal starting words in Wordle.