

# Surya Periaswamy

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github.com/Freakqncy

## Skills

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**Languages:** C, C++, Python, Java, JavaScript, TypeScript, C#, SQL, YAML

**Libraries/Frameworks:** Spring, Spring Boot, Play, Hibernate, Node, Express, React, Redux, Angular, Flask, Django

**Databases:** MySQL, SQLite, Postgres, MongoDB, Redis, Neo4J

**Others:** Git, Docker, SLURM, Maven, Azure DevOps, Microservice, Selenium, Cucumber, Jest, PyTest, JUnit

## Experience

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**Graduate Research Assistant**, Northeastern University – Boston, MA May 2022 – December 2023

- Managed Northeastern University HPC cluster with over 25,000 cores and 200 GPUs powered by SLURM, GPFS, Isilon, and InfiniBand technologies. Offered expert consultations and guidance about Linux environments
- Developed Python automation scripts to enhance course management on the cluster. Leveraged CanvasAPI for the student population and streamlined SLURM account and Unix group creation, reducing support tickets by 50%.

**Software Engineering COOP**, Motorola Solutions – Somerville, MA January 2023 – June 2023

- Led the development of a Video Analytics Tool in C++ and FFMPEG, converting thousands of AVE files into MP4 format. Extracted protocol buffer metadata from AVE files and converted it into CSV data for further visualization, facilitating analysis by 1,000+ engineers, resulting in the development of advanced camera features
- Designed and implemented License Plate Recognition metrics in the Video Analytics Performance Evaluation Tool (PET), utilizing Python to test camera algorithms. Employed advanced matching techniques for precise annotation analysis, enabling extensive testing across 10,000+ cameras, ensuring seamless functionality
- Developed an automated pipeline using Azure for unit testing, improving the productivity of the team by 20%

**Software Engineer**, iQube – Coimbatore, India January 2020 – December 2021

- Developed a serverless cloud-native chat application with AWS Connect, S3, Dynamo, Lambda, Cloud Formation services and piloted it to a small internal group to evaluate new alternative contact center vendors in cloud.

**Software Developer**, Google Summer of Code NetBSD Foundation – Remote May 2019 – August 2019

- Spearheaded the implementation and documentation of COMPAT\_LINUX and COMPAT\_NETBSD32 DRM IOCTLs support in the NetBSD kernel, unlocking GPU hardware rendering for over 100,000 systems

**Software Engineering Apprenticeship**, iQube – Coimbatore, India December 2016 – January 2019

- Implemented REST APIs leveraging SpringBoot for digital sales tool, utilized by more than 10K agents.
- Improved API performance using caching and asynchronous processing with CompletableFutures, facilitating parallel execution of dependent network calls, resulting in a notable 30% reduction in latency

## Projects

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**URL Shortening System** June 2019 – Present

- Authored a highly scalable URL shortening system capable of generating 3.5 trillion unique short URLs. This system efficiently handles up to 30 million calls/month and employs base62 encoding short URL generation

**Chess Game** June 2019 – Present

- A GUI based Chess game in JAVA for two players that implements all major OOP Concepts. Techniques like backtracking and greedy approach was used to determine possible moves. Files were used for storing statistics

**Whisper** June 2019 – Present

- A Twitter-like app enabling user registration, login, and posting thoughts. It employs a MEAN stack: MongoDB for the NoSQL database, Express as the Node.js backend's web framework, and Angular with Bootstrap for the front end

## Education

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**Northeastern University** – Master of Science in Software Engineering Systems December 2023

– Bachelor in Computer Science and Engineering December 2020