AJAY HEGDE

+1(631)542-3402 ⋄ Chapin K1164B, 700 Health Sciences Drive, Stony Brook, NY-11790
ajayhegde97@gmail.com ⋄ linkedin.com/in/ajay-hegde/

EDUCATION

Master of Science in Computer Science, Stony Brook University — **August 2022 - Present**
Relevant Coursework: Distributed Systems, Analysis of Algorithms.

Bachelor of Technology in Computer Science, Manipal Institute of Technology — **July 2015 - July 2019**
Relevant Coursework: Data Structures, Algorithms, Software Engineering, Computer Networks, Operating Systems, Distributed Systems, Information Security

EXPERIENCE

Senior Software Development Engineer, Software Tools — **Mar 2021 - July 2022**
Western Digital — ***Bengaluru, India***

- **Developed a C++ middleware framework for controller and firmware validation of SD protocol-based product that is utilized by firmware and device validation teams all around the world. Exposed APIs and features in Python through wrappers using Boost.**
- **Solely responsible for critical features like SD Command Queue, Secure Firmware download and SD Host Log. Redesigned command structures to make them platform agnostic. Worked on critical features such as model simulation support, data tracking and different tools integration.**
- **Designed a novel solution for creating a command queue structure utilized across different storage protocols.**
- **Made an innovative submission to utilize wasted heat in various storage products in order to delay the device throttling and sustain performance for a longer duration.**
- **Received We-Collaborate, We-Are-Customer-Centric, and We-Deliver-Excellence awards in the org.**

Engineer, Firmware Engineering, Enterprise SSD — **Jan 2019 - Feb 2021**
Western Digital — ***Bengaluru, India***

- **Designed and implemented Firmware hooks to simulate and speed up Firmware behaviour and scenarios**
- **Spearheaded validation of TCG storage SIIS features and enhanced existing security validation libraries. Contributed to power failure validation and error injection scenarios for Flash Translation Layer modules on NVMe based Zoned Namespace SSDs.**
- **Implemented 175+ tests and achieved 95% feature coverage, 70% end to end functional test coverage for the Internal File System module. Expedited bug resolution and recommended efficient coding guidelines which led to 60% reduction of script issues.**

Research & Development Intern — **May 2018 - July 2018**
ADVA Optical Networking — ***Bengaluru, India***

- **Devised SNMP trap receiver and system log collector tools for the Ensemble solution at ADVA for the in-house OpenDaylight-based SDN controller. This reduced turnaround time to root cause bugs from weeks to few hours.**
- **Boosted Performance by 20% through a multithreaded asynchronous wrapper implemented over the synchronous SNMP trap.**
- **Technologies used: Java, Eclipse IDE, Karaf, Maven, Postman, YANG, Opendaylight.**

PROJECTS

HTTP Client

- **Created an HTTP client library with support for all HTTP methods using Golang.**
- **Customized timing configurations to overcome infinite timeout in Go's default HTTP client and enhanced multiple request handling through go routines.**

Peer to Peer Secure File Sharing Application

- **Designed and developed a secure P2P file sharing application in python to share files in an intranet**
- **Analyzed the performance impacts of security overheads and increase in peers.**

SKILLS

Languages: C++, Python, C, Golang
Tools/ Debuggers: Visual Studio, VS Code, STL, Git, Windbg
Protocols: NVMe, SD, TCG storage