

# Ajay Nair

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## EDUCATION

**Carnegie Mellon University - School of Computer Science**

Pittsburgh, PA | Dec 2020

Master of Software Engineering | GPA: 3.62/4

**Pune Institute of Computer Technology**

Pune, India | May 2013

Bachelor of Computer Engineering

## EXPERIENCE

**Carnegie Mellon University - Research Assistant**

CMU | Jan 2020 - May 2020

- Formulated a formal model for verification of Network Filesystem using SPIN and helped identify 3 bugs

**Dell-EMC - Engineer II**

Pune, India | Oct 2017 - June 2019

- Headed a 2-member team to design the NFS REST interface using openAPI and Swagger; developed the interface using Python3 as a team of 6 to be used by 2399 customers of the product
- Laid NFSv4.1 groundwork in C that introduces parallelism and improves security

**Seagate Technology - Engineer II**

Pune, India | Nov 2016 - Sep 2017

- Engineered a distributed cloud object ID generator in C that guarantees uniqueness for 65 years
- Initiated and completed Lustre filesystem archive, restore, and remove functionalities for a parallel data-mover that enables transfer across different storage types for High-Performance Computing use-cases

**Calsoft Inc - Software Development Engineer**

Pune, India | Sep 2013 - Mar 2016

- Brainstormed architecture of Federated NAS, a distributed user-space filesystem over object store(s) along with the system-architect and designed the Object Filesystem
- Implemented global virtual filesystem (GVFS), object filesystem (OFS) in C and tested for 1 TB files
- Introduced in-memory cache that improved performance by 37%
- Mentored 4 university students in the implementation of extended attribute support in Linux kernel NFS, winning 1st prize among 12 mentors

## ACADEMIC PROJECTS

**CAOsLab - Software Engineer**

CMU | Jan 2020 - May 2020

- Designed an interactive 3D brain model web platform using Python and Javascript to assist brain surgeries
- Spearheaded system architecture design, planning, and tracking which resulted in 92% accuracy
- Played the role of customer's point of contact, product owner, and construction leader in one semester each

## OPEN SOURCE CONTRIBUTIONS

- [Karam](#) - Initiated an open-source Android application using Java for job seekers and job providers 2020
- [FSAL-S3](#) - Initiated an open-source AWS S3 support for NFS-Ganesha using C 2018
- Assisted in fixing LIO SCSI Target error in the Linux Kernel using C: [Link](#) 2016
- Added a security test to pyNFS using Python: [Link](#) 2016
- Fixed a security bug among other issues in NFS-Ganesha using C: [Link](#) 2015

## SKILLS

**Programming Languages/Scripts:** C, Python, Java, C++

**Technologies:** Linux Kernel, Distributed Systems, NFS, REST, Docker, Git, RPC, Microservices, openAPI, Operating Systems, Android, Network Security, Backend Development, Agile, Wireshark, Flask, Jenkins, AWS, RabbitMQ, Jira, MySQL, Javascript, SQLAlchemy, Swagger

## AWARDS AND RECOGNITIONS

**SITAC Award** - Stood 1st in SITAC system architecture development award on behalf of CMU: [Link](#) 2020

**Best Project Mentor** - Stood 1st as a 1-year project mentor to 4 university students among 12 other mentors 2015

## VOLUNTEERING

**Sneh Foundation** - Volunteered as Tech-Help and built the Tech Stack as a team of 2: [Link](#) 2019

**Leadership at Bhumi** - Lead a 5 member team, and taught Math to 18 5th and 6th-grade students 2016