Nithin Senthil Kumar

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EDUCATION

THE OHIO STATE UNIVERSITY
M.S. in Computer Science
Expected May 2021 | Columbus, OH
CGPA: 4.0 / 4.0

R.V. COLLEGE OF ENGINEERING
B.Eng in Electronics and Communication
Grad. Jun 2017 | Bangalore, India
CGPA: 9.04 / 10

SKILLS

Proficient
C++ • C • Python • Shell • Java
Git • CUDA • MPI

Familiar
HTML/CSS • Javascript • MATLAB
Docker • Kubernetes • Sockets • SQL

Libraries and Technologies
Flask • ReactJS • RESTful • AWS
ESXi • KVM • Elasticsearch
MongoDB • Pandas • Hadoop
Spack(HPC) • Infiniband

COURSEWORK

Advanced Operating Systems
Algorithms and Data Structures
High Performance Computing Systems
Network Programming
Parallel Computing
Data Mining

ACHIEVEMENTS

Awards

- **Scholarship Recipient 2020-21** for Academic Excellence @ OSU
- **Nutanix Hackathon Winner 2017** for category "Strengthening the Core"

Leadership Roles

- **Certifications Examiner 2018-2019** for the Nutanix India region
- **Mentored** interns at Nutanix on projects and Linux fundamentals
- **Nutanix University Hiring Team 2019** Took technical interviews of students
- **Placement Coordinator 2017** - College representative to industry hiring teams

EXPERIENCE

NOWLAB | Graduate Research Assistant
Apr 2020 - Present | Columbus, OH

- Currently integrating and optimizing the performance of Nvidia collective communications library(**NCCL**) into **CUDA Aware MPI** library - MVAPICH2-GDR.
- Drove the **public launch** of MVAPICH2-X and MVAPICH2-GDR MPI libraries on the HPC package management platform, **Spack**. **[Python, Shell]**
- **C**ontributed the osu_latency_mp **benchmark** to OSU-Micro Benchmarks which is **open-source software** to determine the latency of MPI applications with forked processes. **[C, Shell]**

NUTANIX | Systems Reliability Engineer II
Jul 2017 – Jun 2019 | Bangalore, India

- Spearheaded the team that won **"Strengthening the Core" @ Nutanix Hackathon 4**
- **Mentored and led** the team that designed and developed a **web platform [Flask, React, Docker, Elasticsearch]** with Salesforce integration to display a live summary of critical alerts and configuration of customers' clusters.
- Proactively proposed and pioneered **automation projects** that interfaced with Salesforce, Slack to **improve management efficiency**. **[Python, Shell]**
- Gained expertise in diagnosing and **resolving critical performance issues** in applications, storage, and networks in **production** data-center environments.

NUTANIX | Intern, Systems Reliability Engineering
Jan 2017 – Jun 2017 | Bangalore, India

- Deployed a **diagnostic dashboard** to speed up case resolution times by **tracking trends** in cluster performance stats. **[Python, HTML, Javascript]**
- Developed and implemented a **data extraction** and **migration** tool **[PostgreSQL, Elasticsearch, Java]** to make historical records accessible for **sales analytics**.

IIT HYDERABAD | Summer Research Fellowship
May 2016 – Jul 2016 | Hyderabad, India

- Implemented **graph coloring** and barrier synchronization solutions to **parallelize** and tune the performance the Finite Elements Method problem. **[C++]**
- Libraries created were incorporated into Mechanical department's projects.

PROJECTS

IMDb TV RATINGS VISUALIZER (tv-ratings.live) | Jul 2020
Created and deployed a **Website** on **EC2** to search for and visualize a heatmap of season wise IMDb ratings of any TV show. Try it out using the link in the title. **[Flask, ReactJS, AWS]**

ROBUST UDP GAME CLIENT | Feb 2020 - Mar 2020
Designed a UDP game client with multicast capabilities that can handle dropped or malformed packets from the game server. **[C, Socket Programming]**

ADAPTIVE MESH REFINEMENT | Sep 2019 - Nov 2019
Comparison of different parallelization approaches to speed up dissipation of heat in an adaptive mesh dissipation model. **[C, pthreads, openMP, CUDA, MPI]**

SOUND REACTIVE LED STRIP LIGHTING | Jun 2019 - Jul 2019
Developed the firmware and soldered the circuitry to create strip lighting patterns for WS2812B that change based on the pitch and amplitude of ambient sound. **[C++, Arduino]**