Nithin Senthil Kumar

Software development enthusiast and problem solver with strong fundamentals in Distributed Systems, Parallel Computing, Datastructures, Algorithms, Virtualization, and Network and Storage Infrastructure.

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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.E in Electronics and Communication

Grad. Jun 2017 | Bangalore, India
CGPA: 9.04 / 10

SKILLS

Languages & Programming Models
C/C++ • Python • Shell • Java • MATLAB
HTML/CSS • Javascript • CUDA • MPI

Frameworks & Libraries
Flask • React • Pandas • Numpy • Jekyll

Systems & Technologies
Git • Docker • Kubernetes • Sockets
SQL • AWS • ESXi • KVM • Elasticsearch
MongoDB • Hadoop • Spack(HPC)
Infiniband • SAN • VDIs

COURSEWORK

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

ACHIEVEMENTS

Awards

- **Scholarship Recipient 2020-21** for Academic Performance @ 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, OSU | Graduate Research Associate
Apr 2020 - Present | Columbus, OH

- Drove the **public launch** of MVAPICH2-X and MVAPICH2-GDR MPI libraries on the HPC package management platform, **Spack**. **[Python, Shell]**
- Focusing on identifying and tuning algorithms to optimize the performance of **GPU-GPU data transfers in NVIDIA and AMD GPUs** using CUDA-Aware MPI.
- Contributed the multi-process **latency benchmark**, osu_latency_mp to the **open-source software**, OSU Micro-Benchmarks. **[C, Shell]**

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

- Spearheaded the **winning team** - "Project Pulsify" @ **Nutanix Hackathon 4.0**
- **Mentored & led** a team of interns to design and launch a **web platform** integrated with Salesforce to fetch and summarize critical cluster alerts in a dynamic feed to SREs, thereby decreasing production downtime. **[Flask, Docker, Elasticsearch]**
- **Proactively proposed** and pioneered **automation projects** that interfaced with Salesforce and Slack to improve management efficiency. **[Python, Shell]**
- Gained expertise in resolving critical performance issues in storage, virtualization and networking infrastructure on **Nutanix and VMware platforms**.

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

- Deployed an **automatic alert generation tool** to speed up case resolution times by parsing logs and tracking trends in cluster performance. **[Python, HTML, PHP, JS]**
- Developed a **data extraction** and **migration tool** to boost accessibility of historical records for sales analytics. **[Java, PostgreSQL, Elasticsearch]**

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

- Implemented **graph coloring and barrier synchronization** approaches to parallelize and tune the performance of the Finite Elements Method. **[C++]**

PROJECTS

IMDb TV RATINGS VISUALIZER (tv-ratings.live) | Jul 2020
Created a website to search for and visualize a heatmap of season-wise IMDb ratings of TV shows. **Try it out** using the link above. **[Flask, ReactJS, AWS EC2]**

ROBUST UDP GAME CLIENT | Feb 2020 - Mar 2020
Designed a UDP game client with multicast capabilities that can handle dropped or malformed packets and auto-reconnect to game servers. **[C, Socket Programming]**

ADAPTIVE MESH REFINEMENT | Sep 2019 - Nov 2019
Implementation and comparison of different parallelization approaches to speed up dissipation of heat in an adaptive mesh using a weighted-average heat 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 the WS2812B addressable LED strips that change based on the pitch and amplitude of ambient sound. **[C++, Arduino, WS2812B, Circuit Design]**