

Nithin Senthil Kumar

Software development enthusiast and problem solver with 2 years of industry experience and strong fundamentals in Distributed Systems, Parallel Computing, 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 ENGINEER

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 🌐 🌐

Launched 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, NGINX, 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]