M S Nishanth

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SKILLS

PROGRAMMING
Proficient:
Python • C • C++ • Shell
Familiar:
Go • Rust • AS3 • LaTeX •
PHP • CSS • HTML

TOOLS:
Git, Kubernetes, Wireshark, Vim, GDB, Postman, Perforce, RBT, Pytorch, Numpy, Pandas, Matplotlib, Jira, Confluence.

SOCIALS

🐦 • 🌐 • ⌂ • in • ✉
Github://**msnishanth**
LinkedIn://**msnishanth**

OPEN SOURCE

OWASP ML TOP10 | ⌂
ODoH Client | ⌂

EDUCATION

IIT HYDERABAD
Masters in CS 2018-20 | HYD, India

UCET, ANNA UNIVERSITY
Bachelors in CS 2013-17 | TVM, India

COURSEWORK

GRADUATE
Distributed Computing
Convex Optimization
Foundations of ML
Topics in Data Mining
Probabilistic Models for ML
Advanced Data Structure and Algorithms

UNDERGRADUATE
Information Retrieval
Operating Systems
Theory of Computation
Design and Analysis of Algorithms
Cryptography and Network Security

EXTRA-CURRICULAR

F5 Day'21 • Organized • Coordinated.
CALDAM'18 • Moderated • Facilitated.
UCET Secy'15 • Directed • Orchestrated.

INTERESTS

Read • Aquascape • MMORPG • Food.

EXPERIENCE

F5 | SOFTWARE ENGINEER 2
October 2023 - Present | HYD, IN
- **Collaborated** with CA on **Traffic Classification** & **Achieved** 99.73 F1 score.
- **Led automation initiative** for IPS & TC IM Packages releases, utilizing CI/CD pipelines to validate, verify & publish and **Reduced 96% human effort**.

F5 | SOFTWARE ENGINEER 1
September 2020 - October 2023 | HYD, IN
- **Led a cross-functional team** (SSL, DNS, IXIA) of 8 in **Design & Implementation** of ODoH, HPKE & SVCB capabilities on CBIP ensuring compliance with RFCs: 9320, 9180, and 9460. This project involved utilizing HPKE to construct 44Byte ODOH Config and SVCB for DNS-based service discovery.
- **Boosted DNS Monitor Probing by 20%** through a batched processing queue utilizing a modified Knuth shuffle algorithm.
- **Implemented DNS Cache Enhancements** resulting in **Increase of RPS by 10%**.
- **Improved RPS by 35%** for indeterminate and insecure domain names on Validating DNS Resolver by using fast cache Lookup.
- **Improved precision by 88%** in GeoIP by seamlessly transitioning to GeoIP dbv3, while maintaining lookup time.

IIT HYDERABAD | RESEARCHER
July 2018 - August 2020 | HYD, IN
- **Assessed** 400 students cumulative for courses FML, PMML at IIT Hyd.
- **Mentored 700 students** in Machine Learning fundamentals as part of a summer school program at IIT Hyderabad (team of 30).
- **Optimized high-performance GPU cluster** with 128GB RAM and 1TB GPU processing capacity, ensuring optimal performance and up-time for compute-intensive workloads.

RESEARCH

STRUCTURED OPTIMAL TRANSPORT | RESEARCHER · ⌂
August 2019 – July 2020 | IIT Hyderabad, India
- **Developed** a novel algorithm for **Optimal Transport** with **Prof. Saketha Nath**.
- **Leveraged** sub-modularity to capture data structure, improving efficiency with a Block Diagonal Representation.
- **Reduced OT cost by 20%** by applying the algorithm to color transfer.

HIERARCHICAL MUTUAL EXCLUSION | RESEARCHER · ⌂
August 2018 – November 2018 | IIT Hyderabad, India
- **Co-developed** a hybrid **mutual exclusion algorithm** with **Akash Banerjee**.
- **Optimized** inter and intra cluster communication by multiplexing Raymond's and Maekawa's algorithms and **Achieved 30% lower response time**.

HONORS & AWARDS

2024	1st/ 1200	AI Security Village, BlueHat Microsoft
2023	1st / 20	CTF at F5 India
2023	1st / 9000	BeF5 Engineering Fellow Award
2023	3rd / 300	Security Hackathon at F5 Global
2018	99.2 Percentile	GATE'18 -Graduate Aptitude Test in Engineering

SCHOLARSHIP AWARDS

2018-20	MHRD - Ministry of Human Resource Development, India [2years].
2013-17	PMSS - Prime Minister's Scholarship Scheme, India [4years].