Chirag C Dasannacharya

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Education

University of California, San Diego - MS Computer Science (Systems Track)   2022 – Dec 2023 (Expected)

Birla Institute of Technology and Science, Pilani - BE Computer Science (with Distinction)   2018 – 2022

Experience

Arista Networks   Santa Clara
Intern | Network Software, Packet Processing Platforms | C/C++, Python   Jun – Sep 2023 (Ongoing)
- Built a network security debugging tool that simulates firewall behavior on the router based on configured policy
- Added IPv6 support for VXLAN tunnel endpoints on routers using the Broadcom Trident chipset family
- Optimized TCAM entries on certain chipsets to add further features while maintaining scale

Nutanix   (Remote) Bangalore
Intern, Member of Technical Staff | Distributed Systems, Cloud Storage | C/C++, Python, Go, AWS S3   Jan – June 2022
- Eliminated operational costs associated with multi-cloud garbage collection and simplified workflows
- Upgraded multi-cloud garbage collection to make use of AWS S3 lifecycle policies and object versioning
- Integrated an S3 object-based protocol server with Nutanix's distributed file server to provide S3 access to file storage

INSPIRE Lab, BITS Pilani   Pilani, India
Undergraduate Researcher | Robotics, Decentralized Systems | C/C++, Boost   Jan – Dec 2021
- Proposed strategies comparable to state-of-the-art for multi-robot area exploration, work accepted at IROS 2022 (DOI)
- Developed methods to ensure progress, coordination, state management and fault tolerance in a decentralized setup

Selected Projects

Distributed File Storage and Synchronization | File Servers, Networks, Raft, Golang, gRPC   2023
Implemented a distributed, versioned file handling system with data and metadata nodes coordinated using RAFT on RPCs

Kernel Benchmarking | Kernel, Systems   2022
Studied optimizations and wrote benchmarks for kernel subsystems including processes, system calls, file systems, networks, etc

Cloud Orchestration System | (Link) | Distributed Systems, Network Programming, Python   2021
Led a team building a (Kubernetes-like) cluster system running containers with orchestration, autoscaling, monitoring, etc

Compiler, Interpreter | (Link), (Link) | Programming Languages, C, Rust   2020 - 2023
Wrote a compiler in Rust, writing an interpreter for another language strictly in C. Includes heap allocation and GC

GFS, Shell, TFTP, etc | (Link) | Systems, Networks, C programming   2020 - 2021
Implemented Google File System; a terminal shell with piping and redirects; TFTP server; distributed merge sorting

Skills, Competencies

Programming Languages: C/C++, Python, Golang, Rust, Java

Frameworks and Tools: Linux, Multi-threading, GDB, RPCs, Git, AWS, Docker, REST APIs

Courses - Operating Systems, Computer Architecture, Cloud Computing, Networks, Parallel Computing, Compilers

Achievements, Additional Experience

Datakrew/NTU Singapore - Summer 2021 NTU Connect intern on Datakrew's IoT platform (data processing flows, testing)

BISAG-N Gandhinagar - Summer 2020 Research Asst (Wrote a QGIS python-plugin to get temperature from Landsat images)

BITS Pilani Merit Scholarship - 2020-22 - Awarded to top 3% of students each semester, 6 time awardee

ACM Student Chapter BITS Pilani - 2018-22 - Core Team member

International Linguistics Olympiad - 2017 bronze medal winner and 2018 participant