

Krishnan Gosakan

COMPUTER SCIENCE PHD STUDENT · RUTGERS, NEW BRUNSWICK

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Summary

A software engineer and researcher with 6 years of professional software development experience. My area of interest is in computer systems, ranging from compilers to system security. I am specializing on operating systems and computer architecture for my PhD research, with concentration in memory subsystem. I am switching to academia, after 6 years of professional experience, to pursue my doctorate in computer science. I am a logical thinker and analytical in nature. I learn things quickly. I am looking forward for a research career, where I wish to improve user applications and operating systems for next generation computer architecture.

Education

Rutgers, The State University of New Jersey

New Brunswick, New Jersey

DOCTORATE IN COMPUTER SCIENCE

Aug. 2023

- Advisor: Prof. Sudarsun Kannan
- Working on a multi institute collaborative project on improving virtual memory for next-generation processors
- My contribution deals with improving TLB efficiency by reducing it's miss rate
- Implemented the idea in gem5 architectural simulator
- Evaluating the design against workloads like graph500, XSBench, BTree

Sri Sivasubramaniya Nadar College of Engineering

Kalavakkam, Tamil Nadu

B.TECH IN INFORMATION TECHNOLOGY

Aug. 2012 - July. 2016

- Final year project: Inter-video comparison for redundancy identification using python and mongodb database
- Project Advisor: Prof. E.M. Malathy
- Implemented a File Management System using Front-end as java and Backend as oracle database as a mini academic project
- Created a Banking Account Creation and Management software using Java as front-end and MySQL as back-end
- First prize in programming contest in SSN EEE symposium

Smt Ramkuwar Devi Fomra Vivekananda Vidyalaya

Chromepet, Tamil Nadu

HIGHER SECONDARY, 12TH

July. 2012

- Board: Tamil Nadu State Board
- Subjects: Mathematics, Physics, Chemistry, Biology

Smt Ramkuwar Devi Fomra Vivekananda Vidyalaya

Chromepet, Tamil Nadu

SECONDARY SCHOOL, 10TH

May. 2010

- Board: Central Board of Secondary Education (CBSE)
- Subjects: Mathematics, Science, Social
- Participated in various science quizzes
- Extracurricular Activities: Chess, Yoga

Publication

Mosaic Pages: Big TLB Reach with Small Pages

ASPLOS 2023

- Contributed to architectural simulation part of the paper
- Improved TLB reach by reducing it's miss rate for next-generation computer architectures.
- Awarded Distinguished Research Paper

Work Experience

KLA - Tencor

Chennai

SOFTWARE DEVELOPER INTERN

Sept. 2022 - Nov. 2022

- Worked on Surfscan Image Analysis Cluster
- Improved the product by making use of huge pages
- Demonstrated better memory management policy for the product

Zoho Corporation

Chennai

MEMBER TECHNICAL STAFF

Feb. 2017 - July. 2022

- Worked as a C++ developer for Zoho Assist native Windows application and installer
- Responsible for design, implementation, testing and customer support for Zoho Assist service and deployment components
- Module owner of Windows Deployment for Zoho Assist Unattended Installer
- Have experience in Microsoft GPO and Intune deployment technologies
- Worked on building an MSI based installer for Zoho Assist Unattended Support
- Developed a C# application for bulk deployment of Zoho Assist Unattended support InstallShield-based installer in domain or workgroup based windows network.
- Designed and developed a load testing framework for Zoho Assist
- Designed and developed version update system with failure detection using MD5 hash for Zoho Assist
- Reported SQL injection and XSS bugs in multiple Zoho products
- Reported privilege escalation and injection based security issues in Zoho Assist as a part of HackFox internal security hackathon

Cognizant

Chennai

PROGRAMMER ANALYST TRAINEE

Aug. 2016 - Jan. 2017

- Trained on Mainframe Technology and Cobol programming language
- Worked on IBM Z mainframe systems
- Awarded as the Best Student of the Batch