

PRATIK RAJESH SAMPAT

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Education

University of Illinois at Urbana-Champaign
Master of Science in Computer Science

Aug 2022 - May 2024

PES University
Bachelor of Technology in Computer Science and Engineering

Aug 2015 - May 2019

Experience

AMD

Senior Software Engineer

May 2024 - Present

- Linux Kernel Engineer for the AMD Secure Encrypted Virtualization (SEV) subsystem
- Bring up and validation of AMD trusted IO (SEV-TIO) for secure virtualized direct memory access
- Built virtual memory hotplug to validate, accept pages on the fly in secure environments (SEV-SNP)

University of Illinois Urbana-Champaign

Research Assistant

May 2023 - May 2024

- Worked on bridging the fundamental disconnect between CPU bandwidth entitlement interfaces of Cloud (millicore) and OS (quota, period) leading to poor CPU allocation and autoscaling decisions
- Thesis - Built an OS level autoscaler that extends the Linux bandwidth scheduler to accurately track application behavior and recommend ideal CPU limits on the fly. Significant performance and efficiency gains databases, microservices and serverless applications. Published and presented paper titled: CPU Autoscaling with a kernel of truth at APSys South Korea, Oct 2025

IBM

Software Engineer - Linux Technology Center

Aug 2019 - Jul 2022

- Device bring-up of energy and CPU features for the IBM POWER 10 Server platform
- Discovered inefficiencies in Linux CPU-idle state selection and proposed a weighted idle governor at the OS-directed Power Management Summit (OSPM) 2020. Covered by the Linux Weekly News
- Spearheaded the CPU namespace feature to virtualize and isolate topology information for containerized applications. Presented developments at the Linux Conference Australia (LCA) 2022

Software Engineering Intern

Jan 2019 - Jun 2019

- Enabled the IBM POWER architecture on the gem5 open-source simulator
- Assisted in bringing-up and booting a full system multi-threaded Linux kernel on the simulator. Work presented in the OpenPOWER summit North America 2019

Carnegie Mellon University

Summer Undergraduate Intern

Jun 2018 - Jul 2018

- Profiled the Operating System to extract the kernel view of memory and analyze access patterns
- Simulated a memory prefetching algorithm based on N-grams and evaluated its performance with the state of art in a simulated environment

Honor and Awards

- Patent: Haptic Feedback System. Grant No. 573449 **Nov 2025**
- Full ride scholarship - University of Illinois Urbana-Champaign **Aug 2022**
- Rookie of the year - APAC region, General Manager awards, IBM **Sep 2021**
- Prof. CNR Rao Merit Scholarship, PES University **Feb 2019**
- First runner up - Honeywell Power of connected Hackathon **Jun 2017**