

PRATIK RAJESH SAMPAT

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Education

University of Illinois at Urbana-Champaign

May 2024

Master of Science in Computer Science

Relevant Coursework: Operating Systems, Computer Architecture

PES University

May 2019

Bachelor of Technology in Computer Science and Engineering

CGPA: 8.87 / 10

Relevant Coursework: Operating Systems, Computer Architecture, Databases, Algorithms

Experience

University of Illinois at Urbana-Champaign

Aug 2022 - Present

Teaching Assistant

Champaign, IL

- Teaching assistant for CS 233 - Computer Architecture for Fall 2022

IBM, Linux Technology Center

Aug 2019 - Jul 2022

Software Engineer

Bengaluru, India

- Enabled and enhanced energy management for the IBM POWER platform on Linux
- Proposed a weighted probability approach for CPU-idle state selection. Presented in the OS-Directed Power-Management Summit, (OSPM) Italy - May 2020; proposal covered in the Linux Weekly News
- Proposed CPU namespace to virtualize and isolate topology information for containerized applications. Presented in the Linux Conference Australia (LCA) - January 2022; proposal covered in a phoronix article

IBM, Linux Technology Center

Jan 2019 - Jun 2019

Software Engineering Intern

Bengaluru, India

- 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 gem5 architectural simulator

Carnegie Mellon University

Jun 2018 - Jul 2018

Summer Undergraduate Intern

Pittsburgh, PA

- Profiled the Linux 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

Scapic

Jun 2017 - Jul 2017

Software Engineering Intern

Bengaluru, India

- Assisted in building an in-browser, marker based augmented reality feature for user to create no-code mixed reality experiences

Microsoft Innovation Labs

Jun 2016 - Jul 2016

Intern - PES University

Bengaluru, India

- Prototyped a Virtual reality sandbox experience and created an interface using 3D depth processing of the Microsoft Kinect Camera

Technical Proficiency

Programming Languages: C / C++, Python, Bash Scripting

Technologies: Linux Operating System, Energy Management, Containers, Mixed Reality

Publication

Vinay, A., **Sampat, P. R.**, Belavadi, S. V., Pratik, R., Rao, B. S. N., Ragesh, R., Murthy, K. N. B., & Natarajan, S. (2018, March 1). Face recognition using interest points and ensemble of classifiers. IEEE - Recent Advances in Information Technology (RAIT), Indian Institute of Technology, Dhanbad, India

Honor and Awards

- Linux & Power Significant Contributor Open Source Recognition Program, IBM **Dec 2021**
- Exemplary Rookie, General Manager awards, IBM **Sep 2021**
- Winner - India Systems Development Labs Hackathon, IBM **Jan 2020**
- Prof. CNR Rao Merit Scholarship, PES University **Feb 2019**
- First at Endeavour'17 business strategy competition **Nov 2017**
- Second runner up - Microsoft HashCode 2k17 Hackathon **Nov 2017**
- First runner up - Honeywell Power of connected Hackathon **Jun 2017**
- First runner up - Microsoft Hashcode 2k16 Hackathon **Nov 2016**
- Second runner up - Pluralsight Smarter Than Yesterday Hackathon **Aug 2016**
- First at Intel Anadigix IoT Event **Aug 2015**

Projects

Haptic Feedback glove

Jan 2016 - Sep 2018

Indian patent pending: 201841036867

- A force feedback haptic glove designed to provide realistic sensations of the shape and the stiffness of objects in the virtual space
- An algorithm also devised to convert any three-dimensional model, to a haptic space matrix such that each surface is mapped to a force-feedback sensation on the glove

Sound based Augmented Reality Spectacles

Nov 2018

- A smart-glasses project that re-imagined augmented reality through sound via bone conduction rather than a head-mounted display
- The regular pair of spectacles were retrofitted with an AVR-Arduino microcontroller, a pair of bone conduction speakers, a bluetooth module for communication, and, a capacitive touch interface was designed for the frames