Rishabh Brajabasi

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EDUCATION

Carnegie Mellon University – Pittsburgh, PA   Dec 2019
Master of Science in Electrical and Computer Engineering
- CGPA: 3.56/4.00
- Selected Courses: Real Time Embedded Systems, Embedded System Software Engineering, Foundations of Computer Systems, Wireless Sensor Networks, Networked Cyber Physical Systems

Manipal Institute of Technology – Manipal, India   Jul 2017
Bachelor of Technology in Electronics and Communication Engineering
- CGPA: 9.34/10.0 | Ranked 13th in a batch of 221 students

EXPERIENCE

Marvell Semiconductor Inc, Firmware/Software Engineer   February 2020 – Present
- Developed DDR firmware code for ThunderX servers, working on address translation, error injection, error handling, SI configuration tool and scrubbing
- Implemented a comprehensive fault isolation system for DDR to speed up error discovery during server bring up
- Enhanced DDR eye tool (RMT) to allow for real time adjustments to the reference voltage and timing delays

Carnegie Mellon University, Research Assistant   May 2019 – August 2019
- Fabricated a wrist worn wearable sensor using rapid prototyping techniques to detect and classify 6 hand gestures under the guidance of Assistant Prof. Mayank Goel

Deloitte US India Consulting, Business Technology Analyst   Aug 2017 – Jun 2018
- Assisted in creation of an online portal to streamline distribution of welfare program benefits for the state of Louisiana
- Implemented 20+ rules governing eligibility and benefits provided to each applicant using Java and IBM's Operational Decision Manager. Coded UI and functionality changes on 10+ screens of the online portal

Indian Institute of Technology – Bombay, Research Intern   Jan 2017 – Jul 2017
- Worked as part of a 6-member team to build a read speech assessment tool for children.
- Independently developed a vowel detection algorithm in Python to detect vowel sounds in read speech. Algorithm achieved a precision of 0.82 and a recall of 0.91 over 2000 audio samples

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PROJECTS

Ishaara: Gesture based headphones for Smartphones – Building User Focused Sensing Systems, CMU   Jan 2019 – May 2019
- Created a hardware prototype enabling user interaction with phones using in air gestures.
- Accompanying android app allowed control over applications including Spotify, Open Camera, WhatsApp and others.

Smart Bag – Networked Cyber-Physical Systems, CMU   Jan 2019 – May 2019
- Embedded a bag with a long-range RFID reader to detect tagged objects inside it. Weather forecast and calendar events predict objects that user may need. Actuation mechanism and android app alerts user of missing items.
- Power management techniques implemented to maximize battery life of system. Won best project award.

Smart Classroom – Wireless Sensor Networks, CMU   Jan 2019 – May 2019
- Used network of handheld Xbee radios to administer in class quizzes and generate real time seat map of a classroom. Designed and implemented a MAC layer round robin protocol to prevent packet collision.
- Setup a website where quiz results, class attendance and class transcripts were made available to students.

Alfred: A Smart Room System – Building Automation Systems, Manipal University   Aug 2016 – Nov 2016
- Designed and built a basic activity recognition system to track a room's occupant collecting data from 24 sensors. 4 Arduino Uno's acted as local nodes and relayed information to a Raspberry Pi via an I2C line
- Predicted one of 6 user activities using a raspberry pi which computed user activity based on data from nodes

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SKILLS

- Electronics: Raspberry Pi, Arduino, Particle Photon, XBee Radio
- Programming: C, Python, MATLAB, Android Studio
- Prototyping: 3D printing, Laser Cutting, Mold making and Casting