Rajan Sawhney

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EDUCATION

University of Oregon, Eugene, Oregon
M.S., Computer and Information Science, June 2017

Relevant Coursework
Software Engineering, User Interfaces, Artificial Intelligence, Data Science, Algorithms and Complexity, Advance Data Structures, Parallel Computing and Distributed Systems

University of Pune, Pune, Maharashtra, India
Bachelor of Engineering, Information Technology, May 2013

WORK EXPERIENCE

Graduate Research Fellow, *High-Performance Computing Laboratory (HPCL)*, *University of Oregon* (July 2016 – June 2017)

- Worked on extending AutoPerf functionalities for auto-tuning performance of simulation of large-scale scientific experiments with Dr. Boyana Norris.

Graduate Teaching Fellow, *University of Oregon*

- Taught students HTML/CSS and JavaScript as part of the CIS 111 - *Introduction to Web Programming* course under Prof. Patrick Holleran (March 2016 – June 2016)
- Taught students to program Raspberry PIs using Python as an introduction to IoT as part of the *Hands on with Internet of Things(IoT)* course under Prof. Stephen Fickas (October 2015 – December 2015)

Software Engineer, *Accenture Pvt. Ltd.* (October 2013 – December 2014, Pune, India)

- SAP ABAP Technical Analyst - Performed analysis and code changes in ABAP programming to correct functionality and usability issues related to the system. Successfully resolved over 50 critical system related issues affecting the client's business.

PROJECTS

Compiler development (Coursework, March 2017)

- Developed a compiler in C++ from scratch to read in programs written in a toy language called Quack.
- Used the LLVM-C++ API for code generation.

YouTube Data Analyzer using Hadoop (Coursework, December 2016)

- Used Hadoop MapReduce to develop a project to analyze Big Data of YouTube videos.

Cluster controlled autonomous hauling system (Coursework, May 2016)

- Developed a distributed system that allows Arduino based Ringo robots to work in communication with a central server. Used Ricart-Agrawala and Supervisor-worker algorithms to develop the system.
- Developed using Raspberry PIs to form the cluster, Python for program development and Arduino.

Virtual Buttons (Individual Project, May 2016)

- Created an android application using Unity and Vuforia to create Virtual Buttons to interact in an augmented-reality setting.

Simulation of Random Walk using MPI (Coursework, October 2015)

- Developed a project using C that simulated a Random Walk over a big graph data set.
- Used Message Passing Interface (MPI) for process-to-process communication.

Face recognition using PCA, SVM and SOM (Coursework, October 2015)

- Developed a MATLAB project to study various approaches used to address the face recognition problem like Principal Component Analysis(PCA), Support Vector Machine(SVM) and Self-Organizing Map(SOM).

Monitoring IoT Systems (Research Project, October 2015)

- Used Python and InitialState visualization, to develop an application to monitor the system activity of a cluster of Raspberry-PIs.

Emotion Based Music Player (Undergraduate Capstone Project, January 2013)

- Developed a music player application in MATLAB that utilizes emotion recognition to play different categories of music, depending on the facial expression displayed by the user. Constructed the algorithm to detect the facial expression.

TECHNICAL SKILLS

Languages: C, C++, Python, JavaScript, HTML, CSS, MATLAB
Application Software: Android Studio, Arduino, Unity, Hadoop