Shobhi Maheshwari

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EDUCATION

UNIVERSITY OF UTAH
MS in Computer Science
Aug 2016 - May 2018 (Exp)
Cum. GPA: 3.97/4.0

AMITY UNIVERSITY
BTech in Computer Science
Aug 2012 - May 2016
Cum. GPA: 8.3 / 10.0

SKILLS

Languages
Python • C • C++ • JavaScript • Java • R • MATLAB • Bash • PHP • MySQL • HTML/CSS • MongoDB • LaTeX
Modules
Numpy • Scipy • Pandas • Keras • TensorFlow • Scikit-Learn • Flask • Django • pytest • pyfakefs • ggplot • Matplotlib
Software & Tools
Google Cloud Platform • AWS • Git • Apache Tomcat • GDB • Travis-CI

COURSEWORK

GRADUATE
Data Mining
Neuromorphic Architectures
Network Security
Operating Systems

UNDERGRADUATE
Design & Analysis of Alorithms
Data Structures
Object Oriented Programming
Software Engineering

INTERESTS

Application Development
Network Protocols
Machine Learning
Deep Learning

EXTRACURRICULAR

Designed DropboxSyncer
A dropbox utility to automatically sync files on machines without dropbox client.
Organized ALF Hackathon
Coding Competetion

EXPERIENCE

UNIVERSITY OF UTAH | Research Assistant
C | Python | January 2017 - Present | Salt Lake City, UT
- Designed and implemented an algorithm that utilizes nearby smartphones to increase the upstream bandwidth of cellular networks. Increased the throughput by up to 95% in comparison to that obtained using only one smartphone.
- Used virtualization of the WiFi interface for distributing video data using Multipath TCP protocol to nearby smartphones, which then upload the data to the server using their cellular connections.

UNIVERSITY OF UTAH | Teaching Assistant
Aug 2016 - Dec 2016 | Salt Lake City, UT
- Conducted lab sessions for ~50 students every week, held office hours and evaluated homework and tests.

TCIL-IT CHANDIGARH | Software Engineering Intern
JavaScript | PHP | MySQL | Jun 2014 - Jul 2014 | Chandigarh, India
- Designed a Spanish Learning Web Application that utilized features like flashcards, quizzes, fun facts, etc. to make learning a fun and interactive activity.
- Tested multiple modules of the web application, taking into account browser platforms to ensure the web application worked as designed.

SELECTED PROJECTS

COMMUNICATION-ACCURACY TRADE-OFFS IN CNN TRAINING
TensorFlow | Aug 2017 - Dec 2017 | Salt Lake City, UT
Implemented CNN and varied communication between training stages on multiple GPUs. Reduced running time by 50% for optimal selection of communication based on generated Accuracy-Performance metrics.
Used TensorFlow for implementing CNN and trained them on High-Performance Computing(HPC) Clusters.

PRIVACY ENABLED UNSUPERVISED ACTIVITY RECOGNITION
R | Jan 2017 - May 2017 | Salt Lake City, UT
Classified user activities into still, walking, vehicle class by mapping the rate of change of altitude values with GPS speed using k-means clustering.
Generated utility-privacy graph for selecting privacy level for required prediction accuracy.

ENHANCING PRIVACY AGAINST SMART METERS
Python | Aug 2016 - Dec 2016 | Salt Lake City, UT
Designed an algorithm to strategically charge and discharge a battery which acts as noise to disguise actual power consumption. This enabled households equipped with smart meters to preserve their privacy while revealing the general usage trends to the utility providers.

LOW COST HOME AUTOMATION SYSTEM USING INTERNET OF THINGS
PHP | MySQL | Arduino Uno | Jan 2016 - May 2016 | Salt Lake City, UT
Created a prototype to provide seamless control over all aspects of a smart home. The prototype also provided statistics for temperatures variations, usage patterns and security alerts for suspicious activities.
Used temperature variations statistics to predict household activity with up to 93% accuracy.