Pradeep Reddy Vaka

Contact Information

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Objective

Seeking a summer internship in the wireless industry to apply my academic skills in development of next generation communication technologies.

Education

Virginia Tech, Blacksburg, VA, USA — **Aug 2015– May 2017**
Master of Science in Electrical & Computer Engineering
- GPA : 4.0/4.0

Indian Institute of Information Technology, Allahabad, India — **Jul 2010 – Jun 2014**
Bachelor of Technology in Electronics & Communication — *Graduated with Honors*
- GPA: 9.24/10.0

Work Experience

Virginia Tech, Blacksburg, VA, USA. — **Aug 2015 – Present**
Graduate Research Assistant

- Formulate spectrum-sharing model for Radar-LTE coexistence in 3.5GHz Band.
- Simulate inference attacks and countermeasure techniques for operational privacy in MATLAB.

Verizon Data Services, Hyderabad,India. — **Aug 2014 – Aug 2015**
Software Engineer

- Debugged C++ code and managed production releases related to Verizon services such as Video Media Server, Set-top box and Broadband Home Router.
- Single-handedly migrated almost 70 scripts from Solaris to Linux based servers and automated database processes.

Avago Technologies, Bangalore, India — **Jan 2014 – Jun 2014**
Software Test Intern

- Programmed in Python and Perl to automate two main command line utilities for storage controllers.
- Reduced testing time in production from 20 hours to under 2 hours.

Academic Projects

Comparative Analysis of MU-MIMO broadcast techniques — **Aug 2015 – Dec 2015**
Virginia Tech

- Implemented Multi-User MIMO downlink transmission techniques such as, Block Diagnolization, Dirty Paper Coding and Tomlinson-Harashima Precoding in MATLAB.
- Analyzed and compared the BER performance of the techniques using Monte-Carlo simulations.

Adaptive Modulation in OFDM using Machine Learning — **Aug 2015 – Dec 2015**
Virginia Tech

- Proposed the use of k- Nearest Neighbors to perform modulation adaptation in varying channel.
- Achieved an accuracy of 98.5% and resulted in near-optimal BER and throughput performance.

Direction of Arrival Estimation using Single Snapshot of signals — **Jan 2013 – Jun 2013**
IIIT Allahabad

- Prototyped DOA estimation using Matrix Pencil algorithm on a DSP kit.
- Programmed the Singular value decomposition (SVD) in C for implementation on the kit, and compared results with MATLAB simulations.

Engineering Skills

Programming: C, C++, MATLAB, Python, Perl, Shell Scripting, Verilog.
SDR & VLSI Design: USRP, Xilinx Spartan 3E FPGA, CORNET VT.
Operating Systems: Windows & Linux Distributions
Wireless Standards: LTE, UMTS, WiMAX, CDMA2000, GSM.

Related Course Work

Multi-Channel Communications (MIMO-OFDM)	Stochastic Signals and Systems
Digital Communication Systems	Software Radios
Computer Networks	Data Structure and Algorithms.