Gautam Umapathy Sivam

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Education

North Carolina State University – Raleigh, NC   Dec 2017
- Master of Science in Electrical Power Systems Engineering   GPA: 3.5/4
- Industry Officer – NSF FREEDM Systems Center

Anna University   Nov 2013
- Bachelor of Science in Electrical and Electronics Engineering   GPA: 3.9/4
- University Rank Holder – 18th among 5547 students

Experience

Engineering Intern at Triangle Microworks – Protocol Test Harness Software   May – Dec '17
- Implemented test scripts to test the conformance standards for DNP3 Secure Authentication v5
- Developed test scripts using C# in Visual Studio for .NET Applications

Software Engineer – Tata Consultancy Services, Chennai, India   Nov '13 – Aug '16
- Developed enterprise procurement solution for Cummins Inc. using SAP Ariba
- Saved 1 million dollars by completing the application upgrade process 3 months before the deadline

Industry Capstone for SAS – Distributional Situational Awareness   Jan – Dec '17
- Developed geospatial data visualization for the IEEE 123 node feeder system
- Presented load data in the form of Heat maps along with voltage, Equipment status & loss information
- Forecasted the load data for the week ahead using SAS

Generation System Planning Studies – IEEE 13 bus system using MATLAB & PowerWorld   Oct – Dec '16
- Modelled the generation portfolio like nuclear, hydro, gas-turbine & solar using PowerWorld
- Scheduled the generation by Unit Commitment and published the day-ahead price using MATLAB
- Analyzed the impact of Renewable integration on energy price and power flow

Transmission System Planning Studies – IEEE 85 bus system using MATLAB   Sep – Nov '16
- Simulated contingency & performed power flow analysis to determine bus voltages
- Analyzed the system for voltage violations & branch overloads
- Implemented Nodal Analysis based screening program that runs faster than existing power flow program

Distribution System Planning Studies – Belvedere Buck Swamp 22.86 kV feeder circuit, Goldsboro, NC   Mar – May '16
- Modelled the 57-node feeder using Milsoft WindMil to perform load allocation & Voltage drop studies
- Determined the circuit upgrades needed to meet conservative voltage reduction criteria at the lowest cost
- Analyzed the impact of 5 MW PV system on power quality using OpenDSS

NSF FREEDM Systems Center – Industry Officer   Jan – Dec '17

Protection & Control Scheme – 230/24 kV Distribution substation near Blount Creek, NC   Apr – May '16
- Performed short circuit studies on primary bus, secondary bus & end of feeder backbone
- Coordinated the relays SEL 351S & SEL 387A for transformer and feeder protection
- Tested reliability of the relays under fault conditions using RTDS simulator

Modbus Protocol – Triangle Microworks Distributed Test Manager (DTM) Software   Nov – Dec '16
- Configured the relays SEL 451, SEL 651R & SEL 3530 with AcSELerator Quickset
- Established communication between NI LabVIEW VI and DTM using software loopback interface
- Analyzed the polled voltage & frequency values using Wireshark network protocol analyzer

Skills/Activities

- <u>Programming languages</u>: Java (Oracle Certified), C#, C++, Python, SAS, JavaScript, SQL
- <u>Software/Tools</u>: SAS Visual Analytics, MATLAB, OpenDSS, WindMil, DTM, PowerWorld, NI LabVIEW, AutoCAD
- <u>Volunteer</u>: International Students and Scholars Engaged in Reaching out and Volunteering (ISSERV), Food Bank of Central and Eastern Carolina, Habitat for Humanity of Wake County and Service Raleigh