

MELISA J. SATILI
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Profile

Intelligent, highly motivated individual with strong analytic, artistic, communication, and leadership skills.

Education

2015-2017 Johns Hopkins University, Baltimore, Maryland, GPA: 4.0

Master of Science in Engineering: Computer Science, Dec 2017

2015 Japanese Language Proficiency Test (JLPT) Level N-5 Certified

2009-2013 University of Pennsylvania, Philadelphia, Pennsylvania

Bachelor of Science: Electrical Engineering, Dec 2013

Honors Radio Frequency Communications Division RF Modeling and Simulation Branch Employee of the Quarter, Elizabeth Otis Shear Foundation Scholarship, AFCEA Scholarship, Bloustein Distinguished Scholar Award, AAAA Scholarship, US Achievement Academy USAA Mathematics Winner

Security Clearance Secret (Current)

Technical Skills

Skills

- Responsive Web Design
- Multi-threading
- Mobile Application Development
- Software Design and Development
- Web Design and Development

Software

- Microsoft Visual Studio
- NetBeans
- Eclipse
- Microsoft SQL Server
- Team Foundation Server
- Adobe Dreamweaver
- Adobe Photoshop
- MATLAB

Languages

- HTML5/CSS3
- Java
- C# .NET
- Visual Basic .NET
- JavaScript
- Ajax
- Ruby on Rails
- PHP
- SQL

Relevant Coursework

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| • Rich Internet Applications with Ajax | • Foundations of Algorithms | • Dynamic Systems |
| • E-Business: Models, Architecture, Technologies, and Infrastructure | • Foundations of Software Engineering | • Optimization of Systems |
| • Mobile Application Development for the Android Platform | • Foundations of Computer Architecture | • Engineering Probability |
| • XML Design Paradigms | • Computer Organization | • Electrical and Systems Engineering |
| • Agile Development with Ruby on Rails | • Data Structures | • Electrical Circuits and Systems I/II |
| • Web Application Development with Java | • Devices with Java | • Calculus I-III |
| • Principles of Enterprise Web Development | • C Programming | • Discrete Mathematics |
| | • Networks and Protocols | • Physics I/II |
| | • Web Based Product Design | • Astrophysics I/II |
| | • Electric and Magnetic Fields | • Economics for Business Majors |
| | • Control of Systems | • Corporate Responsibility and Ethics |
| | • Waves/Fibers/Antennas | |

Work Experience

2014-Present Communications Electronics Research Development and Engineering Center (CERDEC)

CERDEC, Space and Terrestrial Communications Directorate (S&TCD) APG, MD Computer Engineer, GS-12

As an engineer in S&TCD Radio Frequency Modeling and Simulation Branch (M&S), I provide Software Development support for all in-house programs and RF Modeling and Simulation efforts.

- Project Lead for the Almost Real Time Electromagnetic Simulator (ARTEMS) system. ARTEMS is a large-scale web-based system comprised of a web front-end, multiple Windows software applications, and database that communicate with one another to accept RF simulation requests from the web and automatically build, run, and post results of the simulation, enabling the ability to remotely leverage in-house HPC assets and RFMS software. As the Project Lead, I support the system in all aspects, through code development, management, testing, system documentation, scheduling, deployment efforts, and interfacing with the customer. Project has been deployed for military use and has received high recognition within the organization for its innovation and the new capability it provides the military.
 - Development:
 - Develops Windows applications, DLLs, and Windows Services in C# using Visual Studio
 - Utilizes XML for application configuration settings and UDP/TCP messaging to communicate across the system
 - Authenticates users into site with via Windows Authentication through Active Directory accounts authorized on the SQL database
 - Deploys Windows applications using InstallShield
 - Deploys ASP.NET site to local IIS Server and configures site settings
 - Management:
 - Manages 100+ table relational database using Microsoft SQL Server
 - User management: roles, groups, permissions
 - Installs and configures all system components
 - Keeping project schedule accurate and up to date
 - Maintains repository of antenna, vehicle, and ancillary X3D models that are visualized with WebGL on the site
 - Utilizes Team Foundation Server for configuration management of source code
 - Customer Relations
 - Prepares briefing packages for the customer
 - Provides live demonstrations of the system to VIPs and potential customers
 - Provides weekly status updates on the state of the project to Branch Chief
 - Promptly met all schedule deadlines and successfully deployed the project for military use
- Project lead for the Intermodulation Product Calculator (IPC) software. Developed and designed a specialized in-house software tool to calculate and graph the intermodulation products generated between specified input signals over a specified frequency band using C# and Visual Studio. The tool greatly increases the efficiency of analyzing intermodulation of signals by completely automating the hundreds of thousands of calculations and has enabled engineers to study intermodulation with more scrutiny and accuracy than before.
- Developed a script for CST written in VBA that accurately simulates coupling between co-located antennas regardless of the number of ports an antenna may have. The script can use output files from multiple electromagnetic software programs so as to not lock engineers down to any specific electromagnetic software.

- Provided technical support on a multitude of programs including field testing of the Modular Weapons System Program, antenna placement analysis for TARDEC's Smart Bridge tactical bridging program, as well as electromagnetic interference testing on the MRAP ATV and MaxxPro Dash vehicles.

2008-2013 Communications Electronics Research Development and Engineering Center (CERDEC) CERDEC, S&TCD APG, MD GR/CS Student Co-Op Educational Program (SCEP) Intern, GS-04

As a SCEP I provided RF Modeling and Simulation support for various customer funded projects. I assisted senior engineers on customer funded and mission projects by modeling vehicles in preparation for M&S testing as well as programming original software for use in M&S testing.

- Developed a Windows application in C# .NET to retrieve, sort, and analyze antenna test data in support of the ARTEMS project.
- Modeled multiple tactical platforms using sophisticated Computer Aided Design software to perform antenna placement optimization analysis
- Assisted in configuring and upgrading computational systems for deployment to Marines in the field with new hardware and software, as required.
- Participated in integration and testing of software programmable next-generation Army radios in a tactical setting.
- Attended at work training course: Antenna Engineering taught by Penn State Professor Dr. Jim Breakall

Senior Design Project

2012-2013 Green Pocket Retailing, Lead Programmer

As the lead programmer for the project, I designed and developed a web-based system targeted towards environmentally-conscious retail businesses looking for a way to accurately plan, track, and report time, cost, and carbon emissions based on the type of shipping options chosen. This system gives retailers the option to create QR tags for individual pieces of merchandise that link to pages describing a product's origin, shipping journey, and environmental impact.

- Elicited software requirements from the team of Systems Engineers based on interviews with shipping managers of URBN and Dick's Sporting Goods and other research
- Developed an algorithm to calculate total carbon emissions, total cost, and expected delivery dates for various types of shipment transportation using MySQL, Google Maps API, and PHP.
- Developed a web system to dynamically add, maintain, and track mobile-friendly product pages that are linked to QR codes using PHP and MySQL.