Swadhyaya Kumar

Contact

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Education

University of California, Irvine, CA (GPA:3.73/4.00)

M.S. Software Engineering *Sept 2015 – Jan 2017*

- Teaching Assistant: Introduction to Software Engineering
- Coursework: Algorithms, Software Architecture, Machine Learning, Artificial Intelligence, Information Retrieval, Software Engineering, Analysis of Programming Languages

National Institute of Technology (NIT) Trichy, India

B.Tech. Electronics and Communication Engg., Advisor – Dr. S. Raghavan *Jul 2009 – May 2013*

- Coursework: C++, Data Structures, Operating Systems
- Thesis: Metamaterials in UWB Antenna Design and Microwave Medical Imaging

Professional Experience

ServiceNow Inc., San Diego, CA

Software Engineering Intern *Jun 2016 – Sept 2016*

- Built an automation engine which detected and fixed vulnerable JEXL expressions with 70% efficiency
- Worked on product features like Currency and Application Transactions for the new version roll-out
- Designed a module to track JUnit testing progress for incremental ServiceNow platforms which exposed unit-test coverage levels and areas of improvement

Intel Security, Bangalore, India

Software Development Engineer *Jul 2013 – Aug 2015*

- Collaborated on Advanced Threat Defense(ATD)- Family Classification; the C++ based module's algorithm improved advanced malware detection for ATD
- Implemented ATD features and modules within the Agile based development lifecycle; performed Linux-based development, automation, testing and debugging
- Designed a Django-based web module that served malware information and post-analysis database for 2 million+ entries

Skills Java, C++, C, Python, Agile Methodologies, Numpy, Octave, Django, HTML/CSS, SQL

Platforms Linux, Windows

Projects

Information Retrieval, Next Gen Search Engine *(Python)* *Winter 2016*

- Designed and deployed a web-crawler to index 35k UC Irvine domain web pages; implemented a Page Rank algorithm for queries on this document set
- Implemented a Contextual Search Engine based on the data collected for UC Irvine that is user and geo-location sensitive

Nine Men's Morris, Artificial Intelligence *(Java)* *Fall 2015*

- Used the Minimax algorithm to implement the AI game engine of Nine Men's Morris game and prune the search space for optimization
- Modified game heuristics which led to improved AI play approach in different stages of the game, based on opposition actions

Family Classification, Advanced Threat Defense- Intel *(C++)* *Oct 2013- Dec 2014*

- Implemented n-gram comparison of assembly level instructions of unknown network traffic against known malware families to detect likely candidates for malware detection
- Automated parallel entry of strong malware candidates into the repository to improve detection of evolving malware and zero-days.

Gender Recognition By Voice, Machine Learning*(Python)* *Fall 2016*

- Used ensembles of XGBoost, Neural Network and Decision Trees to predict gender from the given samples of 20 features for voice data. The algorithm showed a correct prediction rate of 99.7%

Awards & Publications

Ramaraj, Raghavan, Bose, Kumar, "Elliptical Split Ring Resonator: Mathematical Analysis, HFSS Modeling and Genetic Algorithm Optimization," Progress In Electromagnetics Research (PIER) Conference 2012, Moscow, Russia, Aug. 2012