Sai Prashanth Chandramouli

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**SUMMARY**

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| A Software Development Engineer specializing in Web based Security, with a thesis on E-Mail Header Injection vulnerabilities, having over 4 years of experience with creating and designing websites and web apps, from UI with HTML, CSS, and JavaScript to getting down-n-dirty with server side scripting using PHP, Java, Node.js and MySQL. |

**EDUCATION**

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| Arizona State University, *Master’s (Thesis) in Computer Science*. GPA 3.50/4.00 | May 2016 |
| Anna University, *B.E. in Computer Science and Engineering*. GPA 4.00/4.00 | March 2014 |

**EXPERIENCE**

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| Amazon, Inc.*,* *Software Development Engineer, Anti-Money Laundering*.   * Worked as an Engineer, lol. * Designed and implemented a git pre-push hook to verify code before merging with live pipelines that reduced pipeline failures from 24 failures a month to 11 failures a month. * Developed an interactive new hire accelerated ramp-up framework for setting up workspaces quickly and getting acquainted with codebase. * Designed the UI for report generation in suspicious activity monitoring (SAM) for Amazon Anti-money Laundering team’s first foray into the European market. | Aug 2016 –Present |
| Mozilla Corporation*,* *Firefox Accounts Engineering Intern*.   * Engineered the infrastructure for performing reverse geo-lookups to accurately detect the login location of a user, and redesigned the login emails to showcase this login history to the user (merged in Firefox-66 train to 10% of user base) * Designed a Geolocation-based profiling mechanism to maintain a login history and use it to detect and flag anomalous logins. * Designed the user interface for displaying password strength to the user, with live feedback as they enter the password. * Refactored a 61Kb SASS code-base, rewriting the CSS to unify the color scheme for Firefox Accounts and improving performance by reducing file size to 59Kb and removing redundancy across the files. | Summer 2016 |
| Mozilla Corporation*,* *Cloud Services Intern*.   * Designed and developed a 2-Factor Authentication system for Firefox Accounts using Node.js with Google-Authenticator, and SMS as a backup 2nd factor. * Implemented a Password Strength Checker for Firefox Accounts, using a Bloom Filter that maintains a list of common password hashes, that got merged in Firefox-41 train (to ~90 million users). * Deployed an HTML parser to scan generated HTML pages and E-Mail translations and remove malicious translations to prevent cross-site scripting vulnerabilities, in Firefox-40 train. * Ported the Test-linting system from JSHint to ESLint for 6 services, improving productivity and code quality. | Summer 2015 |
| Arizona State University, *Teaching Assistant*.   * Evaluated and graded the undergrad projects for the Capstone Project I and II. * Created and evaluated exams as a TA for Principles of Programming Languages. * Designed and implemented a differential grading schema for lateral movement through a Hacking leaderboard as a TA for Software Security. | Fall 2014 – Spring 2016 |
| Webgyor Waves, Inc., *Co-Founder*.   * Scheduled and managed meetings with clients, analyzed requirements and worked on quotations. * Engineered websites and web apps – Shopping carts, Inventory Management Systems, and Portfolio Websites using HTML, CSS, JavaScript, AJAX, PHP, and MySQL. | Jan 2013 –Present |

**ACADEMIC PROJECTS**

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| Thesis on E-Mail Header Injections – Arizona State University.   * Develop a black-box approach to detect E-mail Header Injection vulnerabilities in a web application. * Develop a system to crawl the web and automatically detect E-mail Header Injection vulnerabilities. * Use our system to crawl 21,675,680 URLs to find forms that allowed us to send/receive emails, found 6,794,917 such forms, of which 1,132,157 forms contained e-mail fields. Tested 934,016 forms to see if they would send an e-mail, and found 52,724 such forms. Of these, 46,156 forms were tested with E- mail Header Injection payloads and, of these, we found 673 vulnerable URLs across 296 domains. | Fall 2015 – Spring 2016 |
| Distributed Operations on Apache Spark – Arizona State University.   * Built distributed Geometric operations such as Union, Farthest Pair, Shortest Pair and Spatial operations such as Join, Range, and Aggregation, on distributed clusters using Java 7 Spark API and Apache SPARK. * Showcased a 210% performance improvement in processing times on Amazon EC2 Cluster T2-instances, for a 5 GB dataset, compared to non-distributed operations. | Spring 2015 |
| Operation Knock-Knock – Secret Spy Web App – Arizona State University.   * Created a web app with security features like knock sequences, XSS and SQL injection prevention. * Scanned user input for malicious payloads, and added suitable sanitizations routines, along with URL rewriting. * Wrote a Python script that automatically generates such an app from a plain English description. | Spring 2015 |
| Asynchronous Server Platform – Optimization over traditional platforms – Anna University.   * Designed and developed an asynchronous server using Node.js, to support a real time game and a stock market system, and made a comparison study with traditional systems built using PHP and Java. * Benchmarked and showcased a Best-case scenario of 328% improvement in the no. of requests serviced per second, and a worst case scenario of 109% compared to vanilla PHP/Java. | Spring 2014 |

**TECHNICAL SKILLS**

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| Technologies: HTML, CSS, JavaScript, AJAX, C, Java, Python, Node.js, Ruby on Rails, PHP, MySQL, XML, Sass, LESS, Git, Alexa App dev.  Frameworks/Libraries: jQuery, RaphaelJS, Bootstrap, KeylemonJS, jQueryUI, Mocha, Sinon, ESLint, JSHint, Chai. | |

**EXTRA-CURRICULAR PROJECTS**

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| Smart HiLow game - Alexa App   * Ported the popular HiLow game to a voice-based version using the Alexa voice API’s, which makes extensive use of Binary Search to figure out the number you are thinking of. | Fall 2016 |
| Plagiarism Detector   * Developing a Plagiarism detector for an online exercise by tracking student movements across levels. * Developing a machine learning clustering algorithm for detecting potential plagiarism. | Spring 2016 – Fall 2016 |
| Git-Setup   * Wrote a Command Line Interface (CLI) for creating, updating, and setting up a repo on GitHub. | Fall 2016 |
| GitChecker   * Created a program which makes use of GitHub’s API to track and analyze my coding patterns, the languages I code in, the average number of open-source projects I contribute to, the average number of lines I write, and the average amount of time I spend coding each year. * Results of this analysis can be found at: http://tda.github.io/HTMLJS-GithubAPI/. | Winter 2015 |
| IdLink Systems   * Prototyped a HIPAA compliant multi-factor authentication system using JavaScript and PHP for Dignity Health. | Fall 2014 |
| Chain reaction – Browser Version   * Ported the popular game "Chain reaction" to the browser using HTML, CSS, and JavaScript as an HTML5 app. * Programmed it to run cross-platform at a small size of 6kb, with no usage of any library/framework. | June 2014 |
| Angel Ceramics   * Crafted a full blown inventory control system, complete with user authentication, adding, editing, removing items and exporting the data into other formats (MS Excel .xls, JSON, CSV, etc.) for a ceramics factory. * Built with PHP and MySQL as backend, and using JS and AJAX to give the user a responsive control system. | Mar 2014 – Apr 2014 |

**HONORS AND AWARDS**

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| Best Outgoing Student 2010-2014, MNM Jain Engineering College, Anna University (out of 113 students). | Apr 2014 |
| Most innovative undergrad project, MNM Jain Engineering College, Anna University (out of 48 projects). | Apr 2014 |
| Won 49 prizes in 34 State-level and National-level symposiums and hackathons, in events like Web Designing (17), Debugging/Coding (7), Tech Quiz (9), Paper Presentations (9), etc. | Aug 2011 – Mar 2014 |