

MANOJ BALASUBRAMANIAM SENGUTTUVAN

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HIGHLIGHTS

- Co-Inventor of “Dark/Deepweb Based Model for the Prediction of Exploited Software Vulnerabilities”
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TECHNICAL SKILLS

- *Programming Languages:* Java, Python, Javascript
 - *Web Frameworks:* Spring Data, Flask, ExpressJS
 - *Databases:* MongoDB, MySQL, Neo4j, PostgreSQL, ElasticSearch.
 - *Big Data Technologies:* Apache Spark, Hadoop HDFS
 - *Miscellaneous:* Web Mining, AWS S3, AWS Elastic Beanstalk, AWS Lambda, AWS EC2, AWS ESS, Tor.
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WORK EXPERIENCE

- Team Lead, DCM Team, Cyr3con Inc.** [Java, Spring, MongoDB, Neo4J, Python, ElasticSearch] May 2017 - Aug 2017
- Converted pipeline jobs to Apache Spark that decrease processing time from 2 hours to 3 minutes.
 - Lead the porting of backend data from PostgreSQL to MongoDB, creating MongoDB indexes, sharding, replication, which reduced API response times 212%.
 - Created Neo4j graphs to map related users. This prevented duplicates, and provided a 180% improvement in API response times while improving pipeline job runtime by 500%.
 - Writing APIs that access ElasticSearch using ElasticSearch REST client which reduced the text search API response times from 3 seconds (on Mongo) to 500ms on ElasticSearch and increased the number of entries from 200 to 50,000.
- Team Lead, Cyber Socio-Intelligent Systems Lab** [Selenium, MongoDB, Python] Oct 2016 - May 2017
- Developed crawling infrastructure to run on a headless browser to reduced crawl times by 35% and memory footprint by 80%, thereby increasing crawl concurrency.
 - Created a Docker VPN SSH Proxy instance that can be deployed onto development machines to mimic the production crawl environment, that changes IP at regular intervals.
- Director, Wippy Technologies** [NodeJS, HTML, Javascript, AngularJS, MySQL] Jan 2015 - May 2016
- Developed a web application that displays short films of the Tamil language on YouTube and classified these films into various genre using a naive bayes classifier.
 - Offered web hosting services using the centos web panel.
- Member Technical Staff, ZOHO Corporation** [Java, Apache Struts, MySQL, Javascript] Jun 2013 - Jan 2015
- Developed a feature to convert Survey Responses to IBM’s SPSS format.
 - Developed a feature that sent an email to custom recipients upon submitting a survey form.
 - Integrated ZOHO Survey responses with Google Sheets.
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PROJECTS

- Multimedia Search Engine** [Matlab, Java, C] Dec 2016
- Extracted color histogram, SIFT features and motion vectors of videos
 - Reduced dimensions of the extracted features using PCA and K-Means to enhance indexing
 - Used PageRank and ASCOS to compute similarity between videos and implemented Locality Sensitive Hashing for retrieval
- Gesture to Voice Translator** [Amazon Echo, Alexa API, AWS Lambda, AWS EC2] Jan 2017
- Setup the gesture recognition device, LeapMotion to extract and classify hand gestures.
 - Configured an Amazon AWS EC2 instance to run a simple HTTP server with Memcache in order to store incoming information in the cache.
 - Configured an AWS Lambda instance to fetch data from the cache server and provide it to Amazon Echo using the Alexa API.
- Visual Recommender System for StackExchange** [Neo4j, MongoDB, Python, Word2Vec, Redis] Dec 2016
- Crawled stats.stackexchange.com to obtain questions, answers, comments and upvotes.
 - Identified which topics users are proficient in based on the gathered information using Topic Modelling.
 - Recommended users with questions they are most capable of answering based on topics they are proficient in.
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EDUCATION

- **Arizona State University** May 2018
Masters in Computer Science [GPA: 3.33/4.0]
 - **Vellore Institute of Technology, India** May 2013
Bachelor of Technology in Computer Science Engineering [GPA: 7.89/10.0]
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