

SHREYAS GOVINDA RAJU

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EDUCATION

- MAY 2018 **University of Southern California**, Los Angeles
M.S, Computer Science
Coursework : Machine Learning, Applied Natural Language Processing, Artificial Intelligence, Operating Systems, Databases and Algorithms.
- MAY 2015 **National Institute of Technology Karnataka**, India
B.Tech, Computer Science and Engineering

WORK EXPERIENCE

- JAN 2018 - MAY 2018 | Software Development Intern, **Mathworks** (Natick, USA)
- Developed a code signing tool to digitally sign executables of Mathworks product Installers.
- Integrated the script as a part of build process in Release Cycle.
Tech stack | **Perl**
- MAY 2017 - AUG 2017 | Software Development Intern, **Tintri** (Mountain View, USA)
- Built an automation tool to highlight known fingerprint failures from test suites.
- Analyzed different log files which are filtered with known patterns and time frame for analysis.
- Developed an end to end web application to accommodate easy analysis and reporting of bugs.
Tech stack | **Python, Django, Bootstrap, JQuery**
- JUNE 2015 - JULY 2016 | Software Engineer, **Samsung Research Institute Bangalore** (Bangalore, India)
- Developed I/O modules in C++ on an automated caching software tool called Autocache.
- Created a web interface for the Autocache stand-alone application with prototype framework.
- Discussed implementation plan of flushing cached data into secondary storage drives.
- Led in the setup of debug environment for kernel debugging in RHEL.
Tech stack | **C++, Jenkins, Visual Studio, Git**

PROJECTS

- **Machine Learning**
 - Implemented linear regression, multinomial logistic regression and KNN using Python Numpy libraries.
 - Calculated the accuracy of each algorithm on the UCI Wine Quality dataset and MNIST datasets.
 - Developed a multi-layer perceptron neural network with relu and softmax non-linearities.
 - Implemented K-means algorithm to perform clustering and Gaussian mixture model for density estimation.
 - Developed a binary classifier on email dataset from Enron investigation using Naive Bayes classification.
- **Slack Bot**
 - Developed a resilient, micro-service based natural language aware bot for Slack app.
 - Integrated NLP module wit.ai, to invoke updated query parameters based on application.
 - Implemented geocoding and time calculations and also monitoring services.
- **Parser**
 - Built a constituency parser trained from ATIS portion of Penn Treebank.
 - Constructed a grammar from the binary trees along with individual probabilities and most frequent rules.
 - Implemented CKY algorithm to parse input sentences with grammar and evaluated its F1 score.
- **Limerick Detector**
 - Built a limerick detector for the poem of form AABBA line pattern using Python.
 - Given data is tokenized and processed using NLTK corpus cmu dict.
 - Count of syllables are used to match rhyming words ending in each line.
- **Finite State Automata**
 - Developed Soundex calculator, a phonetic algorithm from NLTK Finite State Transducers.
 - It is used to represent and store names as pronounced in English.
 - Constructed an FST to translate given Arabic numeral into corresponding French string.

TECHNICAL SKILLS

Programming Languages: Python, C/C++, Javascript and Shell Scripting.
Web Technologies: Node.js, Bootstrap, Webapp2, Django and Prototype.
Applications : Jenkins, Git, Visual Studio, Google App Engine, Heroku, MySQL and NoSQL.