

SHREYAS GOVINDARAJU

EMAIL: shreyasg@usc.edu
LINKS: github.com/shreyas-vgr

PHONE: (323) 690-6538
linkedin.com/in/shreyasvgr

EDUCATION

MAY 2018	University of Southern California , Los Angeles M.S., Computer Science <i>Coursework: Machine Learning, NLP, AI, Operating Systems, Databases and Algorithms.</i>	GPA: 3.56/4.00
MAY 2015	National Institute of Technology Karnataka , India B.Tech, Computer Science and Engineering	GPA: 8.27/10.00

TECHNICAL SKILLS

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

WORK EXPERIENCE

MAY 2017 - AUG 2017	Software Development Intern, Tintr (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

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- **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.
 - Utilized EM algorithm to fit a GMM on a 2D synthetic data.
 - 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.
 - **Author Identity**
 - Implemented authorship identification on lines of poetry written by the corresponding authors.
 - Improved the accuracy of Naive Bayes classifier by performing feature engineering.