

RISHI MODY

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EDUCATION

- University of Massachusetts Amherst** **May 2018**
Master of Science in Computer Science (CGPA: 3.73/4).
- Visvesvaraya National Institute of Technology, Nagpur, India** **May 2016**
Bachelor of Technology in Electronics and Communication Engineering.(CGPA: 3.5/4).

PROFESSIONAL EXPERIENCE

- Lenovo** **Jun 2018 – Present**
Cloud Development Engineering Intern
- Developed a secure authentication and consent app for client access authorization in a connected IoT cloud framework.
 - Extended feature support for handling dynamic user language preference update, addressing internationalization.
 - Successfully implemented a fault tolerant network of interaction in the modular containerized framework, leading to increased security and isolation.
 - Integrated an automated end-to-end test pipeline for stress testing individual modules by mocking user identification.
 - Facilitating transfer of knowledge to global HQ in China for production.
 - Gained exposure to technologies across multiple domains including Docker, Node.js, Express, Pug and batch scripting.
- University of Massachusetts Amherst** **Jul 2017 - Sep 2017**
Graduate Research Intern with Prof. Rene Just
- Designed and developed a standalone analyzer for the **Major** mutation framework to judge the quality of a test suite.
 - Programmed the output interface to summarize the results of the analyzer.
 - Developed test examples and integrated the analyzer to the previous release for deployment.
- Nectar Globe Technology Solutions** **May 2014 - Jul 2014**
Software Development Intern
- Developed a global tweet extractor that accepts multiple parameters as input criteria for searching relevant tweets.
 - Analyzed the stored tweets using Elasticsearch and generated required insights and predictions for market research firms.

PROJECTS

- Enhancing skill taxonomy for Burning Glass Technologies, Boston advised by Prof. Andrew McCallum (Spring 2018)**
- Extracted Wikipedia text data and ran a NER model to identify possible new skills that can be added to the taxonomy.
 - Created a knowledge graph of skills, allowing user to understand the type of relation and similarity between two skills.
- Developing Automated Algorithmic Options Trading Strategies (Spring 2018)**
- Designed an algorithm to short straddles given minute based tick data for options.
 - Simulated trades for straddles with different spreads and time periods of settlements.
 - Trained ML models to predict what the most optimal settlement period and spread would be for a particular option.
- Predicting Steering Angles in Self Driving Cars using Neural Networks (Fall 2017)**
- Designed and applied CNNs to predict the angles using images of the road captured from behind the car's windshield.
 - Applied pre-trained VGG16 model and extended using Dropout and Dense layers to compare results of indigenous CNN.
 - Performed data augmentation using methods for shift, shadow and flip for a more generalized perception of the data.
- Search Engine: Design and Implementation (Fall 2017)**
- Implemented an end-to-end IR engine for structured query retrieval on Shakespearean literature with a focus on performance evaluation, rank relevance order and efficient index creation for storage.
- Assessing the impact of various factors on movie revenues with a focus on critic reviews (Fall 2017)**
- Evaluated sentiments of movie reviews using Naïve Bayes and calculated sentiment scores using NLTK Vader.
 - Predicted revenue using ML techniques including Decision Trees and regression models on relevant handpicked features.
- Distributed Home Automation System (Spring 2017)**
- Simulated a distributed network of virtual devices to develop a smart home system.
 - Used RPC for communication, incorporated synchronization, fault tolerance, event ordering so devices work seamlessly.
- Predicting Soccer League winners using Machine Learning (Spring 2017)**
- Used feature selection and PCA to identify important features of self-curated dataset and their impact on a match's score.
 - Incorporated ML models such as SVM, SGD etc. to predict results of individual matches and thus the winner of the league.
- Internet of Things based Home Automation System using Raspberry Pi (2016)**
- Developed an Android app to control devices in a self-designed smart home having a Raspberry Pi central server.

TECHNICAL SKILLS

Java, Python(numpy, scikit-learn, matplotlib), C/C++, HTML, CSS, SQL, Keras, TensorFlow, MATLAB, PostgreSQL, Node.js, Docker

LEADERSHIP ACTIVITIES

- Graduate Assistant [CS520, **Fall 2017(UMass)** & CS111, **Spring 2018(Smith College)**]: Instrumental in designing, debugging, guiding and grading course assignments for a class size of over 100.
- Head of Corporate Relations, E-Cell VNIT (2014-2015): In charge of sponsorship, event publicity and execution.
- Ed-Support Volunteer, Make a Difference: Taught English and Math to under-privileged children in Nagpur, India.