ARJUN PRASHANTH
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Availability: Summer/Fall 2020 (May-December)

EDUCATION

Northeastern University, Boston, MA — *Sept 2019 - August 2021 (expected)*
Khoury College of Computer Sciences — *CGPA: 3.75*
Candidate for a Master of Science in Computer Science
Related Courses: Data Structures and Algorithms, Information Retrieval, Database Management Systems

SRM Institute of Science and Technology, Chennai, India — *Jul 2015 - May 2019*
Bachelor of Technology in Software Engineering — *CGPA: 8.52 / 10.0*
Related Courses: Machine Learning, Data Science and Big Data Analytics, Linear Algebra, Probability, Statistics

TECHNICAL KNOWLEDGE

Languages: Python, Java, C/C++, JavaScript, HTML, CSS
Databases: MySQL, XML, JSON
Packages: Numpy, Pandas, Scitkit-Learn, PyTorch, Matplotlib, Seaborn, NLTK, BeautifulSoup
Tools/IDEs: PyCharm, Jupyter, Google Colab, IntelliJ, MySQL Workbench, ElasticSearch, Kibana
Operating Systems: Linux, Windows
Other Technologies: AWS (Elastic Beanstalk, RDS, EC2), Git

WORK EXPERIENCE

DRDO (Defense Research and Development Organization), Bangalore, India — *Dec 2018 - May 2019*
Machine Learning Research Intern
- Implemented a pipeline of 4 different Machine Learning models that achieved an accuracy of 97.3%.
  - Pipeline included Naive Bayes, XGBoost, KNN, Decision Trees models that (a) identified whether media transfer occurred in a WhatsApp chat and (b) classified WhatsApp messages as delivered, received or seen.
- Researched WhatsApp's network architecture and discovered patterns in WhatsApp's traffic flow.

Truetech Solutions, Chennai, India — *June 2017 - July 2017*
Android Developer Intern
- Slashed manual errors to 0% by implementing the Auto-Read feature for One Time Password of payment module.
- Created an Android app that allows others to instantly access your phone's contacts and ringing modes via SMS.

PROJECTS

Dog Breed Classifier using CNN — *April 2020*
- Created a CNN that predicts the dog breed given a dog image or closest dog breed resemblance given a human image.
- Detected human faces using OpenCVs Haar Cascades.
- Performed dog face detection and breed classification using Transfer Learning from VGG16 model and achieved 86% accuracy on unseen data.

Bike-Share Rental Prediction using Neural Networks — *March 2020*
- Built a Deep Neural Network using PyTorch that forecasts the number of bike-share rentals.
- Implemented forward pass, backpropagation, gradient descent and sigmoid activation function from scratch.

Spam/Ham Classifier — *February 2020*
- Executed text preprocessing of 75,000 emails by email parsing, stemming and stopword removal using NLTK.
- Indexed the data to Elasticsearch and transformed text data to sparse matrices using CountVectorizer.
- Devised features using NLP techniques like Skipgrams and TFIDF.
- Developed Decision Trees, Logistic Regression and SVM models to achieve an ROC score of 96% on test email data.

Topical Web Crawler — *January 2020*
- Implemented an algorithm for a web crawler using link graphs and customized priority queues.
- Crawled over 140,000 pages on Barack Obama and indexed the crawl data on ElasticCloud.
- Created a Vertical Search using Flask to retrieve relevant pages based on keywords using BM25 text retrieval model.

Patient Experience Website (Database oriented project using MySQL, JPA and Java) — *Oct 2019 - Dec 2019*
- Designed and built a JavaScript-based website for patients to look up doctors based on medical conditions and location.
- Integrated RESTful services as a Middle Level Tier to handle CRUD operations using JPA controllers and DAOs.
- Built a robust database using MySQL and formulated advanced queries like joins, nested queries, triggers, views.
- Hosted the database on AWS RDS and the entire website on AWS Elastic Beanstalk as an EC2 instance.