ARJUN PRASHANTH
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Co-op / Internship Availability: Fall 2020 (September to December)

EDUCATION

Northeastern University, Boston, MA — *Sep 2019 - Aug 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, MySQL, Java, C/C++, JavaScript, HTML, CSS, XML, JSON
Packages:	Numpy, Pandas, Scitkit-Learn, PyTorch, Matplotlib, Seaborn, NLTK, BeautifulSoup
Tools/IDEs:	PyCharm, Jupyter, ElasticSearch, Google Colab, IntelliJ, MySQL Workbench
Operating Systems:	Linux, Windows
Other Technologies:	AWS (Sagemaker, S3, API Gateway, Lambda, Elastic Beanstalk, RDS, EC2), Git

WORK EXPERIENCE

Khoury College of Computer Sciences, Northeastern University, Boston, MA — *May 2020 - Present*
Graduate Teaching Assistant
- Assisting Prof. Virgil Pavlu in grading assignments, presenting demos and class logistics for *Information Retrieval* course.
- Debugging / Troubleshooting the coding assignments of around 50 students every week and answering their questions.

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.

PROJECTS

Sentiment Analysis Web App - *Achieved a test accuracy of 84%* — *May 2020*
- Developed a Web App that predicts the sentiment of an user input review.
- Performed text cleaning and preprocessing including stemming, stopword removal, tokenization and HTML parsing for over 50,000 reviews and uploaded the transformed data to AWS S3.
- Built an LSTM model with Word Embedding layer using skip-gram architecture to learn sentiments from the data.
- Deployed the model for testing on AWS Sagemaker and achieved a test accuracy of 84%.
- Hosted the model on my Web App using AWS Lambda and AWS API Gateway.

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

Topical Web Crawler — *January 2020*
- Implemented an algorithm for a web crawler using link graphs and customized priority queues.
- Crawled over 140,000 web 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.