Apurva Bhandari

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EDUCATION

UMASS AMHERST
M.S. in Computer Science
*Dec 2020 | Amherst, MA
GPA: 3.9 / 4.0

BITS PILANI
BS in Computer Science
May 2018 | Goa, India
GPA: 8.54 / 10.0

COURSEWORK

GRADUATE
Advanced Machine Learning*
Natural Language Processing
Neural Networks
Algorithms for Data Science
Probabilistic Graphical Models
Secured Distributed Systems*
Data Visualization and Exploration

UNDERGRADUATE
Machine Learning
Information Retrieval
Operating Systems
Object Oriented Programming
Database Management Systems
Probability & Statistics
Effective Public Speaking

SKILLS

PROGRAMMING
Over 5000 lines:
Python • Golang • Java • Numpy • Scikit-Learn • Mockito • SpringMVC • Cadence • Glue
Over 1000 lines:
JSP • HTML • CSS
Familiar:
Tensorflow • Pytorch • DynamoDB • AWS • MySQL

AWARDS

2019	1st prize Hackathon at Lithium R&D India
2017	Received a basketball runners up trophy from Diego Maradona
2016	Lead college basketball team to win 3x trophies.

RESEARCH & WORK EXPERIENCE

UMASS AMHERST | NLP Researcher
Sep 2020 – Present | Amherst, MA
- Guide: Prof. Andrew McCallum
- Automatic program repair using NLP while maintaining explainability of the model.
- Refocusing on stack trace to leverage case based reasoning utilizing the Defects4J dataset.

UBER FREIGHT | Software Engineer Intern
May 2020 - Aug 2020 | San Francisco, CA
- Engineered and launched a new emailing service which is expected to generate a value of $1.7M in additional annual run rate for Uber Freight(UF).
- Composed a pipeline for future experiments on early shippers on the UF platform.

MICROSOFT | Graduate Student Researcher
Jan 2020 – May 2020 | Cambridge, MA
- Empirically compared attributions provided by two feature attribution methods: SHAP and Saabas Tree-interpreter leveraging PostgreSQL causal discovery dataset.
- Established the preferable method by comparing the feature attributions & scalability wrt increasing data size and model size.
- Published a workshop paper at CMAI'20.

LITHIUM | Natural Language Processing Engineer
July 2018 – July 2019 | Bangalore, India
- Created a community question answering service finetuning BERT on synthetically modified SQuAD2.0.
- Slashed request serve time from 9 to 0.33 seconds for streams of input to the community question answering service.
- Curated a community question answering dataset.

NUS SINGAPORE, ALSET LAB | Data Analytics Intern
Jan 2018 – May 2018 | Singapore
- Integrated a Firebase application with Moodle which enabled teachers to assign assignments online and enabled collection of the student activity data.
- Created a python service that could perform data analysis which helped teachers understand and teach the class better.

AMAZON | Software Engineering Intern
July 2017 – Dec 2017 | Bangalore, India
- Built and deployed a service that enabled users get details of their PayAtStore order.

SELECTED PROJECTS

Development of Machine Learning models from scratch | UMass Amherst | Fall '19
- Implemented kNN, SVM, Softmax, Neural Networks, BatchNorm & Dropout.

Natural question answering | UMass Amherst | Fall '19
- Created a synthetic dataset to represent natural query like questions.
- On this dataset, enhanced model performance from F1 score of 62.15 to F1 score of 73.05 by hyperparameter tuning.

Extract house number sequence correctly from an image | BITS Pilani | Fall '19
- Obtained an accuracy of 80.4% on the task, implementing the training with Keras. Trained the finalmodel with augmented data on an AWS g2.2x large instance.