Akshay Sharma

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EDUCATION

MS, COLLEGE OF INFORMATION AND COMPUTER SCIENCES

UMass Amherst
Exp. Graduation May 2022 | GPA: 3.75
Relevant Coursework: Machine Learning, Advanced NLP, Reinforcement Learning, Algorithms for Data Science, Systems for Data Science

BTECH, INFORMATION TECHNOLOGY

National Institute of Technology Karnataka
May 2017 | GPA: 3.8
Relevant Coursework: Soft Computing, Data Structures and Algorithms, Linear Algebra, Graph Theory and Probability

PUBLICATIONS

Inner attention based bi-lstms with indexing for non-factoid question answering. IEEE Xplore - 2018. Ageist

spider monkey optimization algorithm. Swarm and Evolutionary Computation, 28:58–77 - 2016.

SKILLS

PROGRAMMING

Python
Java
Julia
C#
JavaScript, HTML, and CSS

SOFTWARE

Tensorflow, Keras and Scikit Learn
Jupyter and Flask
Amazon Web Services (AWS)
Spark and Hadoop
Git and Github
Elasticsearch and Kibana
Docker
MySQL
MongoDB

LINKS

Github: akaysh
LinkedIn: akshay-sharma-1995
Full Resume: akaysh/resume

EXPERIENCE

INTUIT | Software Engineer 2

Aug 2017 – July 2021

- Designed and developed End to End Crashpipeline framework on AWS for TurboTax Desktop to report and analyze product crashes with **AWS Lambda, S3, Elasticsearch and Kibana** which saved ~20 hours of developers' weekly triaging effort. (*Received Tech. Excellence Award*)
- Developed and launched the in app E-Commerce flow for TurboTax Desktop (TTD) as part of the TTD Ecommerce team. Worked on Orchestration service (**Java Spring Framework**) and TTD client integration with **React** web User Interface. (*Received Tech. Excellence Award*)
- Planned and organized several workshops at Intuit to guide and encourage people (groups of ~20-30) to learn **Data Science** and contribute to **Open Source**.

JULIA | Google Summer of Code Internship

Jun 2017 – Aug 2017

- Initiated and implemented Ordinary and Stochastic Differential Equation Solver using Artificial Neural Networks as universal approximators.
- Created and contributed to the Julia package **NeuralPDE** which consists of neural network solvers for partial differential equations using scientific machine learning (SciML) techniques which has now grown into an official Julia package with ~200 stars and 15 contributors.

QUIKR Marketplace company | Big Data Analytics Internship

Jun 2016 – Jul 2016

- Improved the relevance of search results for Quikr Jobs website and increased the **Click Through Rate by 15%** by implementing an efficient scoring functionality using **TF-IDF** scoring, field level weighted boosting and gaussian decay functions along with nearby locality filtering and distance based sorting.

INDIAN ACADEMY OF SCIENCES | Research Internship

May 2015 – Jun 2015 | Indian Institute of Technology, Delhi

- **Improved Swarm Intelligence based heuristic algorithms**
  - Refined and implemented a new Spider Monkey Optimization algorithm to increase its convergence performance by around 2x.
  - Enhanced Particle Swarm Optimization Algorithm to run on multiple CPU cores and combined it with Map-Reduce model to boost the optimization performance by 18.4%.

RESEARCH PROJECTS

DISCOURSE STRUCTURE | NLP Research supervised by Prof. Andrew McCallum

Mar 2021 – July 2021 | Skills: BERT, CRF, PyTorch, Huggingface
Annotated a large dataset of scientific peer review text to highlight discourse structure and developed models to automatically detect this structure.

SUBREDDIT SENTIMENT FOR STOCK PREDICTION | Advanced NLP

Mar 2021 – May 2021 | Skills: Vader, BERT, PyTorch, Huggingface
Developed a tool to make predictions about market movements using stock related subreddits. Involved scraping and processing to construct a new dataset, creating feature vectors, and analysing and comparing different models (lexicon and BERT based) for stock prediction.

NON-FACTOID QA | Deep Learning

Oct 2016 – May 2017 | Skills: LSTM, PyTorch
Enhanced the deep learning model based on LSTM and CNN by applying an inner attention mechanism for the LSTM and also used an information retrieval model along with it to generate answers for non factoid questions. Achieved Mean Reciprocal Rank (MRR) of ~0.74 on WikiQA and InsuranceQA datasets.