

Akshay Sharma

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EDUCATION

MS, COLLEGE OF INFORMATION AND COMPUTER SCIENCES

UNIVERSITY OF MASSACHUSETTS
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

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

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

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

EXPERIENCE

INTUIT | SOFTWARE ENGINEER 2

Aug 2017 – Jul 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 (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 | 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%.

RELEVANT PROJECTS

DISCOURSE STRUCTURE | RESEARCH SUPERVISED BY PROF. ANDREW MCCALLUM

Mar 2021 – July 2021

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

Used stock related subreddits to make predictions about market movements. 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.

RANGO | DOCUMENT CLASSIFICATION

May 2020 – Aug 2020

Built a **deep learning model** which classifies text documents (e.g. customer reviews, product crashes) based on pre-trained as well as trainable word embeddings in Julia. It also provides with a simple document matcher to match your documents semantically.

MODEL FOR NON-FACTOID QA | DEEP LEARNING

Oct 2016 – May 2017

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.

OBJECT DETECTION USING RCNN | SEMANTIC WEB TECHNOLOGIES

Feb 2017 – Apr 2017

Implemented and refined the recurrent connections into each convolutional neural network layer to integrate the contextual information from the neighboring units for better object detection by capturing statistical regularities in the context of the object reducing error to ~1.7 for SVHN (Street View House Numbers) dataset.

DEXTER | AUTO SCRUM MASTER

Feb 2018 – Mar 2018

Designed and built an automatic scrum master which collects developer's data from JIRA and Github (commits, issues, PRs, reviews etc.), and creates a dashboard to visualize the developer's productivity. It also has the capability to automatically create a Markdown document to summarize the developer's contribution for monthly check-ins with the Manager.

SF LOOP | PROBLEM REPORTER

Dec 2019

Created a docker based application which runs periodically on CircleCI, pulls in the application crashes related data from the dedicated server using available Rest APIs and creates nicely formatted Excel reports for the Developers to view and analyze.

EMBEDDED DESKTOP SHELL | A BRIDGE FOR SECURE DATA EXCHANGE BETWEEN THE MODERN WEB AND DESKTOP APPLICATION.

Aug 2018

Implemented an Embedded Desktop Shell which works as an interaction layer between the desktop client and the web User Interface. It works on the principle of a shared JavaScript object between the shell and the Desktop application which allows handling of events and exchanging data between them.