Agrawal Amey

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EDUCATION

BITS PILANI
2014–2018 | Pilani
B.E. (Hons.) in Computer Science
GPA: 8.13/10

LINKS

Github, LinkedIn: //agrawalamey
Blog: agrawalamey.github.io

PUBLICATIONS

A. Agrawal, A. Dixit, D. Kapadia, R. Karlupiya, V. Agrawal and R. Gupta. Delog: A Privacy Preserving Log Filtering Framework for Online Compute Platforms [Arxiv]

A. Agrawal, R. Karlupiya and R. Gupta. Logan: A Distributed Online Log Parser *IEEE International Conference on Data Engineering (ICDE), 2019.* [PDF]

SKILLS

LANGUAGES
Python • Scala • JavaScript
Bash • C/C++ • Java

DATA SCIENCE
TensorFlow • Keras • Pytorch
Scikit-learn • Pandas • Seaborn

WEB & UI
Express • Flask • Electron
JQuery • React

DATABASES
SQL • MongoDB • Redis

MISC
Git • LaTeX • Markdown

EXPERIENCE

QUBOLE | Member of Technical Staff
July 2018 – Present | Bangalore, KA.

- Worked on log parsing algorithms to obtain a **39x** speedup over previous state-of-the-art.
- Developed and deployed a realtime privacy preserving log filtering framework for Spark application on Qubole.
- Was presented the **Spotlight award** for the research efforts on log parsing and filtering.

TEACHING ASSISTANT | BITS Pilani
December 2017– May 2018 | Pilani, RJ.

- Served as teaching assistant for **Machine Learning** and **Neural Networks and Fuzzy Logic** courses.
- Developed and evaluated programming assignments.

QUBOLE | Software Engineering Intern
July 2017 – December 2017 | Bangalore, KA.

- Developed beta version of Qubole's enterprise distributed deep learning platform.
- Won **Spotlight award** for the work on deep learning clusters.

NORAH.AI | Research Intern
May 2017 – June 2017 | Bangalore, KA.

- Developed deep learning models for text to animation conversion using Keras.

BHARAT HEAVY ELECTRICAL LTD (BHEL) | Software Engineering Intern
May 2016 – July 2016 | Trichy, TN.

- Created a web-crawler and visualization tool in Node.js.
- Developed system log management tool using MongoDB and Python.

SELECTED PROJECTS

NNFL APP | January 2018
Blog • Demo • GitHub

- Developed cross-platform desktop application built with Electron and Express for neural networks course.
- Automatically sets up uniform scientific python development environment independent of operating system.
- Allows students to download and launch assignment Jupyter notebooks with a single click.
- Evaluation mode enables programming contests using nbgrader.

DISENTANGLEMENT LEARNING FOR IRIS IMAGE INDEXING | January 2018 - May 2018
Blog • Google Colab Notebook

- While working at the AI Lab in BITS Pilani, designed an autoencoder architecture to learn horizontal translation invariant representations of normalized iris images.
- Established proof of concept on MNIST, Fashion-MNIST and CIFAR10 datasets.

DEEP Q-LEARNING FOR AUTONOMOUS WAREHOUSE ROBOTS | January 2017 – April 2017
GitHub

- Implemented a Deep Q-learning algorithm to make warehouse robots which can learn to navigate autonomously.
- Developed 2D simulations using pybox2D and 3D simulations using V-rep.
- Implemented the neural network using keras.

CNN VISUALIZATION TOOLKIT | April 2017
GitHub

- Integrated a collection of popular CNN visualization techniques into a single framework which can take any Keras CNN model as input.
- Developed backend web server using Flask.

NIRF RANKING ANALYSIS | May 2018
Blog · GitHub

- Performed extensive analysis of ranking metrics and proposed an alternative metric to measure research outcome of universities.
- Scrapped data used to calculate rankings of Indian engineering schools from National Institutional Ranking Framework's (NIRF) website.
- Parsed PDFs by creating a finite state machine using TextFSM.

AUTOMATED NEWS-IN-SHORTS | November 2016
GitHub

- Latest posts from RSS feeds of multiple news agencies are clustered using K-Means with TF-IDF vectorization.
- Trending topics on twitter are mapped to clusters of news articles to identify trending news.
- All the articles on a given trending topic are summarized using extractive text summarization using sumy.
- Developed web clients and REST API using MongoDB and Express.
- Implemented text processing pipeline using NLTK, Scikit-learn and Gensim.

POKEMON MMORPG | March 2017 – April 2017
GitHub

- Designed and developed fully distributed multi-player online game entirely in C.
- Used Redis as message broker and MongoDB as database.

ARXIV-SANITY V2.0 | February 2017
GitHub

- Revamped Andrej Karpathy's Arxiv-Sanity for improved functionality and a better UI.
- Built upon the existing flask web server and migrated database to mongodb for scalability.

REAL-TIME CLASSIFICATION OF NETWORK TRAFFIC | March 2017 – April 2017

- Developed random forest and multilayer perceptron models to perform real-time classification of network traffic.
- Implemented models using Scikit-learn and Keras and captured live packets using PyShark.

PREDICTING ELECTION RESULTS USING TWITTER | April 2015

- Used a convnet with word embedding to perform sentiment analysis on tweets pertaining to US presidential elections.
- Implemented CNNs from the ground up in vanilla python.