Agrawal Amey

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EDUCATION

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

LINKS

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

SKILLS

LANGUAGES
Python • JavaScript • Bash
C/C++ • Scala • Java
Scheme • Prolog • Assembly

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

WEB
Express • Flask • Electron
JQuery • React

DATABASES
MySQL/Oracle/SQLite
MongoDB • Redis

MISC
Git • LaTeX • Markdown

DESIGN
CorelDraw • Photoshop

EXPERIENCE

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

- Developing machine learning driven tools for engineering support.

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.
- Developed a cross-platform desktop application for handling Jupyter notebooks based course work.

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 outstanding performance during month of September 2017.

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

- Developed deep learning models for text to animation conversion using Keras.
- Used DeepMask to add auto texture selection functionality for texturization tool.

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 - Ongoing
Progress Report

- Designed an autoencoder architecture to learn horizontal translation invariant representations of normalized iris images.
- Learned representations are used in a recursive regression model to learn point indexes.
- Estabilised proof of concept on MNIST, Fashion-MNIST and CIFAR10 dataset.

COURSEWORK

Machine Learning
Multivariable Calculas
Linear Algebra
Machine Learning
Information Retrieval
Neural Networks and Fuzzy Logic
Cognitive Computing

Computer Science
Object Oriented Programming
Database Systems
Data Structures and Algorithms
Design and Analysis of Algorithms
Operating Systems
Computer Networks
Compiler Construction

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.
- Treading topics on tweeter 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.