AMIT BARAN ROY

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EDUCATION

M.S in Computer Science **University of Colorado Boulder, USA** *Aug 2019 - May 2021*

- GPA - **3.87**/**4.00**, Data Science Specialization.
- Courses - Machine Learning, Design & Analysis of Algorithms, Neural Networks & Deep Learning, Convex Optimization, Distributed Systems, Datacenter Scale Computing, Professional Master's Project, Big Data Architecture, Natural Language Processing.

B.E in Electronics & Instrumentation **BMSCE, Bangalore, India** *Sept 2012 - May 2016*

- GPA - **9.58**/**10.00**, Gold Medallist.
- Courses - Operating Systems, Computer Networks, Embedded Systems, JAVA Programming, Digital Signal Processing.

EXPERIENCE

Teaching Assistant **University of Colorado Boulder, USA** *June 2020 - May 2021*

- Supported the course and held office hours for CSCI-5722: *Computer Vision* for a class of 40+ students (Jan 2021 - May 2021).
- CSCI-3022: *Intro to Data Science with Probability and Statistics* - class of 50+ students (June 2020 - July 2020).

Software Developer Intern **CenturyLink, USA** *May 2020 - May 2020*

- Accepted summer 2020 internship offer. Cancelled due to COVID-19.

Software Engineer **Mcfadyen Digital, Bangalore, India** *Aug 2016 - Jul 2019*

- Developed a payment framework using Oracle ATG to integrate country specific third party payment vendors for Louis Vuitton e-commerce that helped increase LVMH's revenue by a record breaking **15%** upto $\$59$ billion in 2019.
- Improved efficiency, complexity and processing time of LV's order management system by redesigning the fulfillment pipeline framework to implement REST (previously SOAP) based integrations of retail & warehouse management services.
- Increased security by implementing multithreaded transactions to synchronize concurrent order requests at cart and checkout.
- Setup Oracle Weblogic application server 11g and deployed end to end ATG 11.2 Commerce Reference store along with Endeca search/Experience Manager for browsing products.
- Facilitated smooth launch of LV Europe project and onsite UAT support during go-live month at Paris, France.
- Automated manual order processing and reduced overall orders cancellation upto **20%** by optimizing existing back order architecture that significantly helped the production support and business team.
- Enhanced online shopping user experience by developing a responsive address search feature using Google Maps API.
- Helped the company to win a competitive marketplace project deal (2018) by developing an efficient REST based connector between ATG commerce and Mirakl marketplace platform as a POC.
- **Technology**: Java, J2EE, REST, SOAP, client-server, Oracle ATG (alternative Spring MVC), Endeca search (alternative ElasticSearch), Oracle SQL, Junit, Mockito, Jboss, Linux, Html, CSS, Javascript.

TECHNICAL SKILLS

Python, Numpy, Pandas, Scikit Learn, Tensorflow, Keras, Java, J2EE, SOAP, REST, C, C++, JavaScript, jQuery, HTML, CSS, Flask, AngularJS, AJAX, Bootstrap, JUnit, MySQL, Redis, MongoDB, Hadoop, PySpark, RabbitMQ, Jboss, Git, Linux, Bitbucket, Maven, CI/CD, Jenkins, JIRA, GCP, Google Kubernetes Engine, Docker, Waterfall, Agile, Machine Learning, NLP, Computer Vision, Cloud Computing

PROJECTS

Songle | *Python, NLP, Big Data, NLTK, MongoDB, Sentiment Analysis* Jan 2021 - May 2021

- Developed a TF-IDF based song search engine with a corpus of over **22600** songs crawled from Spotify and Genius API.
- Created an inverted index and added upto **3** types of search queries - One word, free text and phrased queries.
- Integrated song analysis features like WordCloud, Spotify song links, and lyric sentiment analysis.

Covid-19 detection using CT-scan | *Python, Tensorflow, Deep Learning, CUDA* Dec 2020 - Dec 2020

- Built a hybrid deep learning model using DenseNet and Nu-SVM to detect Covid-19 using CT-scans and achieved an accuracy of **89.5%** and **94.5%** AUC. It performed better as compared to other models like ResNet, Inception and MobileNet.

Cloud Based Movie Recommender System | *Machine Learning, Docker, Kubernetes, REST, Redis, GCP* Sept 2020 - Dec 2020

- Implemented Collaborative filtering based recommendation algorithm. Developed the application interface using Streamlit.
- Scaled up the application to $\mathbf{9}$ pods by deploying it on Google Kubernetes cluster using docker containers. Enhanced performance by distributing server traffic using GKE load balancer service.

SOAM Word Embeddings | *NLP, Tensorflow, NLTK, Sklearn* May 2020 - May 2020

- Created a skipgram based word embedding model using modified Word2Vec algorithm to generate optimized word embeddings.

Occupancy Network based 3D Image Reconstruction | *Python, Tensorflow, Deep Learning* Feb 2020 - April 2020

- Implemented Generative Adversarial Network using Convolution NN to reconstruct 3D image from a 2.5D image.
- Deployed Occupancy Networks using ResNet blocks to increase the resolution of generated 3D images from $\mathbf{256^3}$ to $\mathbf{512^3}$.

Paraphrase Detection | *NLP, Tensorflow, NLTK, Deep Learning* Sept 2019 - Dec 2019

- Analyzed performances of different ML models (Logistic Regression, Random Forests, Support Vector Machines, Naive Bayes, Boosting) to detect paraphrases in a document and achieved a maximum accuracy of **73%**.
- Improved accuracy to **90.09%** by using neural network based BiMPM model with BERT embeddings.

P2P Resource Pool | *Flask, REST, Redis, Google Cloud, Git* Feb 2020 - April 2020

- Implemented a P2P abstraction service to share resources like storage (files) based on master slave architecture.
- Scaled up the distributed service to **5** nodes to handle task distribution, file replication and node leave/failures.

AWARDS

- **Excellence Award (2017)**, Mcfadyen Digital. *Bangalore, India*
- **Best Student Section - Outstanding Project Award (2016)**, ISA District 14. *Mumbai, India*