

# Pooshpendu Adhikary

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## SUMMARY

Passionate Computer Science major focusing on Machine Learning with 3 years of experience as a Software Engineer in Big Data. Seeking opportunity to use machine learning system design skills to deploy highly efficient models and aiming to deliver solutions for customer needs with proven engineering, research and teamwork skills.

## EDUCATION

Master of Computer Science	May 2021
	GPA: 3.40/4.00
Bachelor of Technology in Information Technology	May 2016
	GPA: 3.63/4.00

## TECHNICAL SKILLS

Languages	: Python, Java, C#, C++, JavaScript, SQL (Postgres), Shell script
Frameworks	: TensorFlow, PyTorch, Scikit-Learn, Streamlit, Spark
Databases	: Cassandra, Neo4j, MongoDB, Postgres, Hadoop
Developer Tools	: Git, Docker, Jupyter Labs, Spyder, Unity, Eclipse, Elastic Stack
Libraries	: NumPy, Pandas, Dask, NLTK, OpenCV, Matplotlib, Log4j, Apache Commons

## PROFESSIONAL EXPERIENCE

	June 2016 – July 2019
Software Engineer/ Database Administrator	
<ul style="list-style-type: none"><li>• Formalized a private Blockchain-as-a-service with business team to maintain distributed ledgers and store and execute smart contracts on behalf of the nodes with throughput of up to 500 transactions per second.</li><li>• Planned and designed Event Routing Manager, a microservice responsible for managing the communication among other services with request handling frequency of 16,000 per second.</li><li>• Developed a RESTful web service to collect and manage more than 40 million customers' data from Policy Control and Charging Rules Function (PCRF).</li><li>• Engineered a Workflow Manager which automated the tracking and monitoring of an Infrastructure-as-a-service system for telecommunication.</li><li>• Collaborated with multiple cross-functional teams to deploy applications in live production within 72 hours.</li></ul>	

## PROJECTS

Comparison Analysis of Machine Learning Systems,	Spring 2021
<ul style="list-style-type: none"><li>• Constructed a classification system to distinguish fake reviews of a product from the real ones in an e-commerce website.</li><li>• Surveyed NYC Taxicab dataset to perform regression analysis as one of the use-cases in which PySpark and SparkML came up the best in terms of accuracy and time taken to train the model.</li></ul>	
Deep Learning Analysis,	Fall 2020
<ul style="list-style-type: none"><li>• Executed a 3-layer perceptron for binary classification with varying numbers of nodes in hidden layer with an accuracy of 86%.</li><li>• Performed hyperparameter optimization using deep Convolutional Neural Network for digit classification using Keras, achieving accuracy of 99%.</li></ul>	
Semantic Textual Similarity/Paraphrase Detection,	Fall 2020
<ul style="list-style-type: none"><li>• Researched paraphrase detection using a synthetic dataset to explore the effects of synthetic data in training a deep neural network.</li><li>• Generated synthetic data using spaCy and NLTK and trained an uncased BERT model that resulted in an accuracy of 91% using the synthetic data and 83% using SNLI dataset.</li></ul>	
Mobile Offloading,	Spring 2020
<ul style="list-style-type: none"><li>• Created a computation offloading architecture using numerous mobile devices connected to a wireless network.</li><li>• Utilized Android Studio to create an application that can split a task like matrix multiplication and communicate with the application on other devices to perform the operation and reduce the computation time from 250 seconds to 40 seconds.</li></ul>	
Pathfinding and Object Identification in Gazebo Simulator,	Fall 2019
<ul style="list-style-type: none"><li>• Employed reinforcement learning in a robotic environment using ROS and Gazebo simulator to test the performance in a stochastic environment.</li><li>• Programmed a Gazebo turtlebot in a partially observable 4-room environment that used OpenCV to detect environment with multiple objects and LRTA* algorithm with PolyMap to navigate around in 140 seconds.</li></ul>	
Finding fake reviews on an e-commerce Website Project,	Spring 2016
<ul style="list-style-type: none"><li>• Constructed a classification system to distinguish fake reviews of a product from the real ones in an e-commerce website.</li><li>• Accumulated data from websites like Amazon using BeautifulSoup and performed syntactic analysis using Shingling and Min-hashing algorithms to achieve an accuracy of 93%.</li></ul>	