Aryan Luthra

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Aryan_Luthra

Skills

- Python, Java, SQL, C++
- Distributed Data Analytics
- Identity & Access Management
- Machine Learning
- Deep Learning
- Neural Networks
- Reinforcement Learning
- Bayesian Inference
- Keras / PyTorch / scikit-learn
- Tensorflow
- Markov Models (MDP, HMM)
- NEAT , OLAP
- Cloud Computing
- Serverless Computing
- Analytical Modelling
- Amazon Web Services
- Mathematical Optimization
- Algorithm Design

Relevant Courses

- Deep Reinforcement Learning
- Bayesian Modelling
- Machine Structures & Computer Architecture
- Quantum Computing
- Principles of AI
- Principles of Machine Learning
- Efficient Algorithms and Intractable Problems
- Principles of Data Science
- Probability Models and Random Processes
- Quantum Mechanics
- Designing Information Devices and Systems

Honors

- UC Berkeley Dean's List
- Global Leadership Diploma
- YMCA Peace medal
- Duke of Edinburgh Silver
- OAPT Physics Award
- Varsity swim team- CISSA winner

Volunteer

- Make-A-Wish Canada - Web and App developer

Education

University of California, Berkeley, Berkeley, CA 2017-2021
Bachelor of Engineering (Major: EECS, Minor:Physics & Data Science) | Tech GPA: 3.85/4.0 (Dean's List)

Technical Experience

Microsoft Azure
Intern- Machine Learning + AI Jun - Aug, 2020

•Reduced man hours spent for Access Management by >90% through building an automated IAM solution for app access on the cloud based on various optimization techniques
•Implemented multiple clustering algorithms to infer underlying groups within a clients organization used for recommending and executing better access management strategies
•Designed & implemented a model + pipeline to inform clients when certain apps are now no longer in use, not updated to the latest security standards, or may include unused (and thus hackable) credentials
•Interacted with multiple Azure clients in order to develop and iterate on these features to match customer need and exceed customer expectations

Amazon Robotics
Intern- Data Science Jun - Aug, 2019

•Reduced man hours by 80% in problem diagnostics by designing ML cloud-based tool using serverless architecture in AWS including Lambda, SNS, SQS, and RDS to keep track of bottlenecks in tasks pipeline
•Cut down out of scope expenses by up to 40% by developing an OLAP-based budgeting tool backed by a serverless DB to analyze, diagnose, and avoid out of scope expenses in projects and outsourced work
•Increased data cleaning efficiency by up to 80% using Combined Random Forest & NLP techniques (Bag-of-words, keyword extraction) to fill in missing data (task categories) based on context from completed fields

Artiste-qb.net | Developing Quantum-ready Systems
Intern- ML/DL May - Aug, 2018

•Predicted drone-failures hours in advance by developing ML models using error logs
•96% accurately estimated human age/gender from photos of subjects by developing CNN-based models
•Applied machine learning principles to quantum computers to co-develop Q-ML packages

Research - QuantumPhysics@Berkeley

Quantum Information with Trapped Ions - mentored by Hartmut Haeffner
Undergrad Research Assistant Aug 2019 - Jun 2020

•Optimized qubit by implementing CNNs using Quantum Information with trapped Ions & their ability to become a scalable quantum processing device
•Developed an algorithm that is able to have upwards of 99% readout fidelity while keeping the exposure time to a minimum by merging both algorithmic and ML techniques
•Reduced required exposure time by using supervised learning models and implementing fast, low-level code; without reducing fidelity

Projects

Deep Q Learning Doom
Mar 2020 **-** cont

•Implementing a rational agent using Deep Q-Learning to play the original Doom video game developed by iD Software. Understanding the vast game state space of Doom, decided to utilize a neural network that estimated Q-Values of these complex game states which inherently provided staggering results. Throughout the project, we utilized technologies such as Nvidia CUDA Parallelization, TensorFlow, and PyTorch

Quantum Computing Tutorials
Mar 2020 - cont

•Using Microsoft's Q# library to explore and explain what it means to 'Code' on a quantum computer. Furthermore, I am using Q# with inline explanations in comments to recreate some of the major solutions that quantum computing provides, including Quantum Teleportation, Superdense Coding, and Shor's Algorithm