

Muhammad Gill

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EDUCATION

- University of Waterloo** Waterloo, ON
Computer Engineering (Bachelors) *September 2016 - April 2021*

EXPERIENCE (MOST RECENT 3)

- Google** Mountain View, California, USA
Machine Learning Engineer *September 2019 - December 2019*
 - Pretrained a BERT encoder (tensorflow) on large volumes of english text using cutting edge parallel TPU technology and kubernetes to achieve over 95% accuracy on dataset sequences.
 - Optimized database queries (SQL) to run on Googles parallel query engine, reducing runtime by 80%.
 - Modified a BERT transformer architecture (python, tensorflow) to be used with an MLP in order to classify text post-encoding, increasing base classification accuracy by over 6%.
 - Achieved state-of-the-art precision classifying wikipedia text, using a modified transformer model.
 - Wrote a parallel data processing pipeline (c++) to generate text datasets to be used for training almost any Ontology classification model.
 - Authored a research paper (publication): Text Object Ontology, in which I present state of the art results in Ontological Text Classification.
- Google** Montreal, Quebec, Canada
Software Developer *January 2019 - April 2019*
 - Wrote, and deployed (using kubernetes) a parallel label propagation algorithm (c++) to label unlabelled data samples, increasing algorithm runtime speed by 1800%, over single machine speed.
 - Independently designed and implemented semisupervised learning pipeline (tensorflow, cpp) for very large security datasets. Initial, unoptimized models realized accuracy and F1 scores above 98%.
 - Wrote custom evaluation binary (python, cpp, javascript) to score the semi-supervised and unsupervised models, saving 100s of manual hours.
 - Wrote a custom node transformation binary (c++, python) to generate new datasets capable of key-shifting to create 30+ unique label datasets.
- Blackberry LTD** Waterloo, Ontario, Canada
Software Developer *May 2018 - August 2018*
 - Developed deep learning model for relational database syntax conversion from PL/SQL (oracle) to MySQL (100% precision).
 - Developed and optimized dynamic scripts (Java) to efficiently and securely migrate over 20% of company databases (schema, procedures and data) between different, incompatible platforms.
 - Contributed greatly to many other confidential projects (java, javascript, HTML).
- Personal Projects** *Feb 2011 - Present*
Software Developer
 - Wrote a model (python) to accurately predict stock price volatility using financial derivative (options) flow having over 82% 3-day accuracy.
 - Independently developed (c++) 3200+ elo chess engine (neural network). Trained using self generated dataset (90+ million unique chess positions).

SKILLS

- Operating Systems:** Linux (Debian/Ubuntu), macOS, Windows
- Languages:** C++, Python, Java, SQL, Bash, Javascript, CSS, HTML
- Technologies:** Tensorflow, scikit-learn, Pytorch, kubernetes, .NET, Node.js, ASP.NET, MATLAB, Express.js
- Tools:** Git, XCode, Visual Studio, Eclipse, VS Code, Azure, MySQL, mariaDB, MongoDB, AWS