

# Newton Kwan

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## Summary

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Machine learning graduate student with 1+ year of industry work experience in software engineering, data engineering, and analytics with 3+ years of academic research experience in physics and computer science. I'm particularly keen on the practical application of machine learning to real world problems.

## Experience

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### **Zume** | Software Engineer, Analytics

Oct 2019 - Apr 2020 | Seattle WA

- Developed Zume's data generator for synthetic training data used by machine learning algorithms to predict Seattle restaurant demand and reduce food waste in the food supply chain using Python
- Maintained and analyzed Zume's diverse datasets in GCP, providing support for Data Science, Analytics, Visualization, and Operation teams using Pandas, SQL, and Google BigQuery

### **Insight Data Science** | Data Engineering Fellow and Mentor

Mar 2019 - Sep 2020 | Seattle, WA

- Developed an online recommendations application to help scientists summarize their research
- Built an end-to-end pipeline to process 45M+ research papers using Spark, Redis, Flask and AWS
- Mentored 4+ Data Engineering Fellows on data engineering projects and presentations

### **Duke University** | Undergraduate Researcher

Dec 2016 - Jan 2019 | Durham, NC

- Developed of an open source game environment for testing novel ML algorithms in Python
- Built C++ simulations to understand the effects of supernova neutrinos on dark matter detectors
- Performed statistical analysis of dark matter sensitivity at the Large Hadron Collider

## Education

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### **University College London** | MSc Machine Learning

Sep 2021 - Present

- Current courses: Supervised + Probabilistic Learning, Bayesian Deep Learning, Machine Vision
- Intended: Reinforcement Learning, NLP, Applied Machine Learning, AI for Sustainable Development

### **Duke University** | BS Physics

Aug 2015 - Dec 2018

- 2+ years undergraduate researcher in the Duke Neutrino and Cosmology Group and Duke ATLAS
- 2+ years as Music Director of *Something Borrowed Something Blue*

### **San Francisco Conservatory of Music** | BM Bassoon Performance (transferred to Duke)

Aug 2014 - May 2015

- Member of the SFCM Orchestra, Berkeley Symphony, and SFJAZZ Monday Night Band

## Skills

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**Languages:** Python | Prior experience: Java, Swift, C++, Mathematica

**Tools:** Python Scientific Stack (Pandas, NumPy, SciPy, Sklearn Jupyter Notebooks), PyTorch, Git | Prior experience: Spark, Redis, Flask, Tableau

**Services:** GCP BigQuery, Cloud Storage; AWS EC2, S3