

EMMANUEL EKWEDIKE

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EDUCATION

Princeton University, Princeton, NJ

Ph.D. Operations Research & Financial Engineering

Expected Sept. 2020

M.A. Operations Research & Financial Engineering

Sept. 2017

City College, New York, NY

M.S. Applied Mathematics

June 2015

Brooklyn College, New York, NY

B.S. Mathematics

June 2013

TECHNICAL SKILLS

Data:	Big Data, Data Mining, Data Modeling, Data Analytics, Data Management
Tools:	Python, SQL, Git, AWS, Scikit-learn, Pandas, R, Hadoop, Scala, Octave
Statistics:	Statistical Tests, Statistical Inference, Monte Carlo Simulation and Sampling
Visualization:	Plotly, Tableau, Ggplot, Folium, Canva, Omnigraffle, Seaborn, Flask, Dash
Machine Learning:	Supervised Learning, Unsupervised Learning, Reinforcement Learning
Predictive Modeling:	Logistic Regression, Random Forest, Gradient Boosting, Neural Network
Web Development:	HTML5, CSS, JavaScript, Sublime Text, Chrome Developer Tools

DATA SCIENCE & RESEARCH EXPERIENCE

Princeton University, Princeton, NJ

Sept. 2016 – Present

Ph.D. Researcher

- Managed large groups of undergraduate students in expanding their Machine Learning knowledge base to successfully plan and complete their thesis projects
- Developed an optimization framework that enables decision-makers to efficiently solve the inventory allocation problem in a bike-sharing network
- Created predictive machine learning models for real-world problems and integrated the models with application programming interface (API) to easily discover and share actionable insights

Insight Data Science, New York, NY

Jan. 2019 – Mar. 2019

Data Science Fellow

- Built a recommendation engine that helps users discover new music they would enjoy based on their music preference and previous activities
- Implemented a content-based recommendation model in Python using data from the Million Song Dataset
- Developed a user-friendly web-application for the recommendation engine in the Flask API and deployed the application on the amazon elastic compute cloud

Tencent America LLC, Seattle, WA

June 2017 – Sept. 2018

AI Research Intern

- Created an artificial intelligent (AI) agent that learns how to perform a challenging task without being explicitly programmed

- Developed a flexible learning methodology, *feedback-based tree search algorithm*, for efficiently solving sequential decision problems
- Implemented a neural network version of the *feedback-based tree search algorithm* in Python and tested the efficiency of this methodology in a challenging game environment

City College, New York, NY

Aug. 2013 – June 2015

Research Assistant

- Developed statistical methods for forecasting weather parameters efficiently
- Conducted research on high-resolution meteorological forecasts using artificial neural networks
- Estimated and identified the variables that are needed to improve the downscaling of shortwave radiation

SELECTED PUBLICATIONS & CONFERENCE PRESENTATIONS

- D. Jiang, **E. Ekwedike**, H. Liu: *Feedback-Based Tree Search for Reinforcement Learning*. ICML 2018.
- W. Drazen, **E. Ekwedike**, R. Gennaro: *Highly Scalable Verifiable Encrypted Search*. CNS 2015: 497-505.
- **E. Ekwedike**: *Creating High-Resolution Meteorological Forecasts using Artificial Neural Networks*. CAARMS 2014.

TEACHING & LEADERSHIP EXPERIENCE

Princeton University, Princeton, NJ

Jan. 2016 – May 2020

Teaching Assistance

- Courses: Optimal Learning, Convex and Conic Optimization, Introduction to Monte Carlo Simulation, and Fundamentals of Queueing Theory
- Presented technical content to undergraduate and graduate students of diverse academic backgrounds
- Managed large groups of undergraduate and graduate students in expanding their programming knowledge base to complete their course projects

CCNY Graduate Math Club, New York, NY

Feb. 2014 – June 2015

Vice President

- Managed relationships and expectations between graduate students and faculty members in the math department
- Worked with 3 student leaders to organize math seminars and symposiums for graduate students
- Organized a team of 4 graduate students to mentor underrepresented students in mathematics and thus promoting diversity in the STEM fields

SELECTED AWARD AND HONORS

- Princeton Presidential Fellowship, Princeton University *2015-2016*
- The Bridge to Doctorate Fellowship, LSAMP *2014-2015*
- Adobe Graduate GEM Fellowship, Adobe Foundation *2013-2015*
- Albert Shanker Undergraduate Scholarship *2009-2013*