

## Education

**Carnegie Mellon University** | Heinz College

Dec 2019

*Master of Information Systems Management*

Intensive blend of technical skills and leadership with a focus on machine learning, distributed systems, data science and big data.

**Relevant Courses:** Data-Focused Python, Machine Learning, Data Science, Big Data, Unstructured Data Analytics, Distributed Systems

**University of Pittsburgh**

Apr 2018

*B.S. Mathematics, B.S. Computer Science, m. Linguistics, summa cum laude*

**Awards:** Culver Award, Laura LaFave and Peter Hallett endowment, Chancellor's Scholarship

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## Skills

**Languages:** Python, Perl, Java, JavaScript, SQL (MySQL, PostgreSQL), bash

**Tools/Frameworks:** Git, Docker, Jenkins, Amazon Web Services (AWS), Linux, distributed systems, Vue.js

**Machine Learning:** deep learning, natural language processing (NLP), Keras, TensorFlow, Scikit-learn (sklearn), NumPy, Pandas, Hadoop, MLflow

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## Experience

Tomorrow University of Applied Sciences | Remote | **Research Engineer**

May 2023 - Present

- Optimized 50+ core competencies by automating MCQ generation with LLMs, saving 100s of hours for learning designers
- Designed and validated 3 new hands-on machine learning and AI courses, receiving positive feedback from 100+ students
- Created exercises for students to build supervised prediction models, comparing ensemble methods like XGBoost with neural nets built using Keras; after model tuning students achieved an average accuracy of 89%

**Technologies:** machine learning (ML), NLP, Large Language Models (LLMs), Python, Keras, Scikit-learn, artificial intelligence (AI)

Grant Street Group | Pittsburgh, PA | **Full Stack Software Engineer**

Jan 2020 - Dec 2022

- Led a full-stack overhaul of payment reversals system with a cross-functional team of 4 using Vue.js and microservices; this resulted in a 20% reduction in support requests and 2x faster workflow speed
- Independently built an internal navigation app adopted for daily use by 7 teams and 90% of employees in the organization
- Mentored 3 junior developers, modernizing onboarding and cutting ramp-up time for all developers by 30%

**Technologies:** Perl, MySQL, JavaScript, Vue.js, distributed systems, API integration, Agile software development

MIO Partners | New York City, NY | **DevOps / InfoSec Intern**

Jun 2019 - Aug 2019

- Engineered an intelligence suite adopted by the security team, consolidating dozens of sources of vulnerability data into one dash
- Created standardized Jenkins pipelines across 3 application teams, reducing deployment time by 200+ hours annually

**Technologies:** Python, web scraping, Pandas, Flask, Jenkins, bash, Linux

UPMC Enterprises | Pittsburgh, PA | **Software Engineering Intern**

Jun 2018 - Aug 2018

- Developed new reporting capabilities for payment processing clients using Java, Spring Boot, JavaScript, and SQL
  - Attained 100% test coverage for all code as part of an Agile team of 8 developers
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## Academic Projects & Research

[CMU Capstone — Highmark](#) | Carnegie Mellon University | Pittsburgh, PA

Dec 2019

- Analyzed cost and outcomes for 40,000 patients across 5 regions using regression and clustering algorithms in Python
- Led team of 4 students in statistical analysis of clinical data and presented findings to executives to influence a [\\$2.5 billion program](#)

**Skills:** Python, Pandas, Scikit-learn, Matplotlib, regression, clustering, PCA, supervised learning

**Statistical Machine Learning (from scratch)** | Carnegie Mellon University | Pittsburgh, PA

Apr 2019

- Increased classification accuracy to 88% using logistic regression on a sentiment polarity NLP analyzer for movie reviews
- Implemented a neural network from scratch to label handwritten digits with 93% accuracy; designed and wrote code for backpropagation, module-based automatic differentiation, and average cross-entropy loss
- Created Q-learning algorithm with linear function approximation for beating a physics game with 2048 state spaces

**Skills:** Python, reinforcement learning, deep learning, NumPy, regression, classification, probability theory, NLP

[Cognitive Systems Group](#) | Universität Bremen | Bremen, Germany

May 2016 - Feb 2017

- Approximated convergent human creativity in the Remote Associates Test and generated 17 million new queries
- Enhanced cognitive model speed by 300% by implementing efficient combinatorial algorithms in Java
- Drove research in semantic word association and presented at 2 conferences with 1 published paper in leading psychology journal

**Skills:** Java, algorithms, research, software engineering, SQL