

Mikel Polena

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EDUCATION

Bachelor of Science in Computer Engineering, Illinois Institute of Technology 2013 – 2015
College of DuPage 2010 – 2012

COURSEWORK

Digital Circuit Design	Discrete Math and Algorithms	Computer Architecture Design
Computer Networks	Inter-Professional Projects	Microcomputers
Signals and Systems	Systems Programming	VLSI Design
Operating Systems	Modern Physics	Database Organization

SKILLS

Languages: Python, SQL, C, C++, Clojure, JavaScript, php
Tools: Selenium, REDCap, git, VS Code, Jupyter, Power BI, sed, awk, vim, tmux, venv
Python libraries: Numpy, Pandas, Scikit-Learn, Keras, Pytorch, OpenCV, Tensorflow and more
C++ libraries: STL, Boost, OpenMP
Algorithms: Backpropagation, Linear and Logistic Regression, Time Series Analysis
Databases: Oracle, SQL Server, PostGRES
Github: <https://github.com/mpolena>

EXPERIENCE

Python Developer / Data Analyst – CCTS BioInformatics Core, UIC Chicago, IL Feb 2020 – Present

- Extract and Provide clinical data to assist stakeholders in various research projects/studies that provide an improved understanding of healthcare phenomena. (medication effects, cohort studies, etc.)
- Prepare and deliver the CAPriCORN and PCORI common data model by implementing and maintaining Python and SQL code to deliver a reliable ETL process.
- Develop tools using Python that combine various APIs and libraries in order to facilitate domain mapping and improve resource utilization.
- Contribute on multiple projects and scientific papers as needed by providing insights about to computational models and deep learning.
- Design and maintain a COVID-19 common data model from Electronic Health Records for UIC. This unidentified data is combined with records from other institutions in the area to conduct cross-institutional research.

Python Developer / Data Analyst – Shirley Ryan AbilityLab - Chicago, IL May 2019 – Feb 2020

- Consolidated multiple complex data sets in order to create data repositories that serve as the foundation for advanced analytic models used throughout the institution.
- Used Python to design tools that automated data collection and eliminated manual data processes by leveraging the capabilities of selenium, requests, multiprocessing and other libraries.
- Used multiple APIs to successfully automate data migration from different sources into REDCap, a secure HIPAA compliant web application used for building and managing online surveys and databases.
- Acted as Interim REDCap Supervisor/Administrator overseeing user access requests, approval of in production project changes and addressing ad-hoc implementation challenges.

- Doubled number of REDCap users by migrating two Clinical Neuroscience Research Registries, improving data processes and providing better usability and data consistency.
- Uncovered trends, patterns, correlations and other relationships in medical health records to deliver actionable insights that improve patient care by using various Python libraries including pandas & matplotlib.
- Performed ad-hoc analysis on patient satisfaction, operations management and safety related events.
- Designed complicated SQL queries that continually pull data from the Enterprise Data Warehouse and present it in dashboards that provide better visualization and assist in data driven decisions.

Data Analyst Intern – University of Illinois Chicago CHECK Program

May 2017 – Jan 2018

- Performed analysis on the program's patient outreach effort by examining trends and efficiency and their impact on minimizing patient risk and medical costs.
- Worked with complex datasets cleaning and parsing data in order to improve program utilization.
- Assisted with database migration from the IT Department to the Data Team.
- Participated in weekly data meetings where analysis was presented and discussed.

ACADEMIC PROJECTS

STEPS – Solutions That Enable Phone Security was a multilayer security solution concept that protected users in case of smart device theft. STEPS was developed in collaboration with four other students as an Inter-professional academic project and was selected among twenty other projects to be presented in front of the **FCC Technical Advisory Council meeting Dec. 2014 - Washington D.C.**

DATA SCIENCE & MACHINE LEARNING BACKGROUND

Coursera

Certification/Completion Date

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| • Python Curriculum (four courses) – University of Michigan | March 2017 |
| • Machine Learning – Stanford University, Prof. Andrew Ng | June 2018 |
| • DeepLearning.ai – Stanford University, Prof. Andrew Ng | |
| ○ Course 1: Neural Networks and Deep Learning | August 2018 |
| ○ Course 2: Structuring Machine Learning Projects | August 2018 |
| ○ Course 3: Improving DNNs: Hyperparameter Tuning, Regularization and Optimization | August 2018 |
| ○ Course 4: Convolutional Neural Networks | September 2018 |
| ○ Course 5: Sequence Models | September 2018 |
| • AI for Medical Diagnosis | March 2020 |

NVIDIA Deep Learning Institute

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| • Deep Learning Fundamentals for Computer Vision | August 2018 |
| • Modeling Time Series Data with RNNs in Keras | April 2019 |

Intel AI Academy

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| • Deep Learning 501 | September 2018 |
| • Time Series Analysis | February 2019 |

**References available upon request*