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**

* 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, August 2018

Regularization and Optimization

* + Course 4: Convolutional Neural Networks September 2018
  + Course 5: Sequence Models September 2018
* AI for Medical Diagnosis March 2020

**NVIDIA Deep Learning Institute**

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

**Intel AI Academy**

* Deep Learning 501 September 2018
* Time Series Analysis February 2019

\**References available upon request*