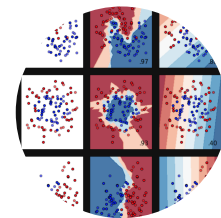# MICHAEL C. RUGGIERO

Data Scientist

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PROJECTS

Efficient Packing: **C++, Python**

- Collaborated with Dr. Sinha from MIT to simulate packing for Lay's Chips.
- Calculated moments of inertia and dynamic friction inside Blender engine.
- Scanned actual chips using 3D scanners and Mathematica visualizations.

Disaster Simulation: **Python, Osmnx**

- Identified road closures based on Twitter and MassDOT API.
- Simulated traffic based on four times of day with Google API.
- Generated disaster and optimized dispatch for police and rescue.

Natural Language Processing: **Python, TF-IDF**

- Scrapped 2000 partisan subreddits for essential information.
- Calculated relationship between emotion and participation.
- Built CountVectorizer pipeline for Logistic Regression analysis.

Campaign Planning: **Python, scikit-learn**

- Charted canvassing strategies with councilor Breanna Lungo-Koehn.
- Built interactive database for technical and non technical volunteers.
- Organized and scheduled optimal routes for multiple canvassers.

EXPERIENCE

Data Scientist
D⋆Day Data

📅 2015 – Present   📍 Medford, Massachusetts

Mathematics Teacher
Harmony School of Fine Art

📅 2012 – 2013   📍 Houston, Texas

Mathematics Department Head
University of Shanghai

📅 2007 – 2009   📍 Shanghai, China

Mathematics Teacher
Meg's English

📅 2005 – 2007   📍 Incheon, Korea

ACHIEVEMENTS

🏆 **Elected to School Committee**
Used k-mean clustering to organize 2017 campaign canvassing.

🌿 **Automated Farming**
Using Arduino sensors, built 2 acre organic, blueberry farm.

SKILLS

Programming	Machine Learning
Python	Keras
C++	TensorFlow
Scala	PyTorch

Regression	Data Processing
ElasticNetCV	SQL
Statsmodels	EDA
Logistic	Value Imputation

Clustering	Visualization
DBSCAN	Matplotlib
KNN	Tableau
Spectral	Networkx

NLP	Cloud
Data mining	AWS
TF-IDF	SSH

EDUCATION

Data Science Immersive
General Assembly

📅 Feb 2019 – Present

MFA: English
Temple University

📅 Sept 2010 – June 2012

B.Sc. Mathematics
Rhode Island College

📅 Sept 1999 – June 2003