

Alexander C. Michels

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🎓 Education

Westminster College

Bachelor of Science in Mathematics and Financial Economics

📍 New Wilmington, PA

August 2015 - May 2019

- 3.7 GPA; Minor in Computer Science
- Honors Thesis in Hierarchical Temporal Memory focused on A.I. and Time Series Analysis
- **Extra-Curriculars:** Endowment Fund, Honors Program, Financial Analyst Program, Kappa Mu Epsilon, Men's Choir, Omicron Kappa Sigma, Pi Sigma Pi, and Secretary of Robotics Team

👛 Professional Experience

Informatics Researcher

Institute for Pure and Applied Mathematics at UCLA / Praedicat, Inc.

📍 Los Angeles, CA

June 2018 - August 2018

- Worked for Praedicat, Inc. automating information extraction, classification, and aggregation from unstructured web data for business profiling of over 52,600 companies and corporate entities.

Systems Administrator and Software Engineer

Titan Radio and WCN 24/7

📍 New Wilmington, PA

May 2018 - Present

- Overhauled network, oversaw purchasing, and wrote [software solutions](#).

Financial Analyst

Program with Moody's Investors Service VP Ben Nelson

📍 Various

December 2017 - Present

- Presented a credit rating along with bond and stock recommendations to a panel of experts.

Computational Finance Research Assistant

Dr. Charles Shaffer

📍 New Wilmington, PA

January 2017 - May 2018

- Explored inefficiencies between cryptocurrency exchanges and backtested technical strategies such as Donchian Channels and Bollinger Bands on Bitcoin, Ethereum, and Litecoin.

📄 Research

Using ARMA Models to Capture the Predictive Power of Cortical Learning Algorithms

December 2017 - Present

- [Ongoing research](#) in computational neuroscience, specifically HTMs modeled after the neocortex.

Computational Fact-Checking through Relational Similarity based Path Mining

July 2018 - Present

- Presented our work at IPAM, presented at [2019 Joint Mathematics Meeting](#), and [continually optimizing](#).

🗣️ Conferences and Talks

“Capturing the Predictive Power of Cortical Learning Algorithms”

National Conference on Undergraduate Research

April 2019

📍 Atlanta, GA

“Computational Fact-Checking through Knowledge Graphs”

AMS Contributed Paper Session at 2019 Joint Mathematics Meeting

January 2019

📍 Baltimore, MD

“Information Extraction and Aggregation for Business Profiling”

Invited Talk at Institute for Pure and Applied Mathematics

July 2018

📍 Los Angeles, CA

“Repeated Play Games”

MAA, Allegheny Mountain Section Meeting

April 2017

📍 Pittsburgh, PA

“Optimizing Throughput, Cost, and Safety in Toll Booth Plazas”

Pi Mu Epsilon Regional Conference


February 2017


📍 Youngstown, OH

Awards


Best Robot in Division Prize for Senior Unique Division <i>"Robot in the Division with the lowest Total Final Scores"</i>	April 2018 Trinity Fire Fighting Robot Contest
North America Award for Level 2 <i>"The top North American robot in Level 2"</i>	April 2018 Trinity Fire Fighting Robot Contest
Dr. Thomas R. Nealeigh Mathematics Scholarship <i>"awarded to an outstanding junior or senior mathematics major"</i>	March 2018 Westminster College
Paul E. Brown Memorial Scholarship <i>"given based on merit and academic achievement"</i>	March 2017 Westminster College
Honorable Mention <i>"excellent modeling and sensitivity analysis"</i>	January 2017 COMAP International Mathematical Modeling Competition
Mathematics Book Award <i>"presented to the sophomore Mathematics major with the highest GPA"</i>	March 2017 Westminster College

Skills

 **Computer Science:** Parallel Programming, Software Engineering, System Administration

 **Data Science:** A.I., Big Data, Informatics, Machine Learning, Network Science

\$ Finance and Economics: Algorithmic Trading, Corporate Credit Analysis, GAAP, Risk Analysis

 **Languages:** Python (& Cython), Java, C++, Bash, R, HTML, CSS, XML, Javascript, SQL, Visual Basic

 **Software & Tools:** AWS, Google Cloud, NLTK, Numpy, Pandas, scikit-learn, Selenium