Alexander C. Michels

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Education

Westminster College — New Wilmington, PA
Bachelor of Science in Mathematics and Financial Economics — *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

Experience

Informatics Researcher — Los Angeles, CA
Institute for Pure and Applied Mathematics at UCLA / Praedicat, Inc. — *June 2018 -August 2018*

Systems Administrator and Software Engineer — New Wilmington, PA
Titan Radio and WCN 24/7 — *May 2018 - Present*

Teaching Assistant and Tutor — New Wilmington, PA
Westminster College — *August 2015 - Present*

Data Scientist — New Castle, PA
Treloar & Heisel — *September 2018 - Present*

Financial Analyst — Various
Program with Moody's Investors Service VP Ben Nelson — *December 2017 - August 2018*

Computational Finance Research Assistant — New Wilmington, PA
Dr. Charles Shaffer — *January 2017 - May 2018*

Research

Using ARMA Models to Capture the Predictive Power of Cortical Learning Algorithms
December 2017 - Present — *advised by Dr. C. David Shaffer and Dr. Carolyn Cuff*

Computational Fact-Checking through Relational Similarity based Path Mining
July 2018 - Present — *with Himanshu Ahuja*

Minimum Square Deviance k-Chinese Postman Problems
August 2017 - January 2018 — *advised by Dr. Fontes Merz*

Algorithmic Game Theory
January 2017 - May 2017 — *advised by Dr. Carolyn Cuff*

Conferences and Talks

"Capturing the Predictive Power of Cortical Learning Algorithms" — April 2019
National Conference on Undergraduate Research — Atlanta, GA

"Computational Fact-Checking through Knowledge Graphs" — January 2019
AMS Contributed Paper Session at 2019 Joint Mathematics Meeting — Baltimore, MD

"Information Extraction and Aggregation for Business Profiling" — August 2018
Invited Talk at Praedicat, Inc. — Los Angeles, CA

"Information Extraction and Aggregation for Business Profiling" — July 2018
Invited Talk at Institute for Pure and Applied Mathematics — Los Angeles, CA

"Decentralizing the World with Blockchain" — April 2018
Undergraduate Research & Arts Celebration — New Wilmington, PA

"Repeated Play Games" — April 2017
MAA, Allegheny Mountain Section Meeting — Pittsburgh, PA

"Strategies in Simulated Repeated Play Game Theory" — April 2017
Undergraduate Research & Arts Celebration — New Wilmington, PA

"Optimizing Throughput, Cost, and Safety in Toll Booth Plazas" — February 2017
Pi Mu Epsilon Regional Conference — Youngstown, OH

Awards

Best Robot in Division Prize for Senior Unique Division April 2018
"Robot in the Division with the lowest Total Final Scores" Trinity Fire Fighting Robot Contest

North America Award for Level 2 April 2018
"The top North American robot in Level 2" Trinity Fire Fighting Robot Contest

Dr. Thomas R. Nealeigh Mathematics Scholarship March 2018
"awarded to an outstanding junior or senior mathematics major" Westminster College

Paul E. Brown Memorial Scholarship March 2017
"given based on merit and academic achievement" Westminster College

Honorable Mention January 2017
"excellent modeling and sensitivity analysis" COMAP International Mathematical Modeling Competition

Mathematics Book Award March 2017
"presented to the sophomore Mathematics major with the highest GPA" 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, Linux, NLTK, Numpy, Pandas, scikit-learn, Selenium