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|  | Alexander Michels  <https://github.com/alexandermichels> | alexandercm4297@gmail.com | (716) 753-0414 | |
| Education | | **Westminster college**, new wilmington, PAMathematics and Financial Economics with a Computer Science Minor  * 3.7 GPA and Honors Program * Overloaded every semester on top of auditing additional courses and taking independent studies in Blockchain Technology, Game Theory, Graph Theory and independent research * Kappa Mu Epsilon (Math Honors), Men’s Choir, Omicron Kappa Sigma (All College Honors), Pi Sigma Pi (All College Honors) and Secretary of Robotics Team * Skills developed in my studies include extensive programming experience with C++, Java, Python, R, and Solidity, proficiency in Word, Excel, and PowerPoint, and applied work in interdisciplinary fields. |
| Experience | | **Financial Analyst** Team led by Vice PRESIDENT & Senior Credit Officer at Moody’s investors service, Ben NelsonDecember 2017-Feburary 2018 I worked with a team of students alongside a panel of experts in finance and economics to analyze and forecast the earnings of PPG Industrial Coatings. My focus was in economic indicators, looking for Granger Causality and correlations in order to attempt to build a reasonable model of PPG’s earnings. Our team ultimately came up with a credit rating along with a bond and stock recommendation which we presented our findings to a panel of experts. **Developer**January 2016-Present I work writing applications, software, as well as some web solutions in a wide variety of languages. My work includes logic software for robotics, servers, smart contracts, Android applications, a game theory library, and a variety of computational finance software. **Research Assistant** Dr. Charles ShafferJanuary 2016-Present I worked with Dr. Shaffer to integrate cryptocurrency trading into his algorithmic currency trading application. We explored inefficiencies between exchanges and backtested technical strategies such as Donchian Channels and Bollinger Bands on Bitcoin, Ethereum, and Litecoin. **Endowment Fund Assistant Manager** Westminster CollegeJanuary 2016-Present I lead a team of students to research investment opportunities and make decisions for $160,000 of Westminster’s Endowment Fund. I am responsible for dissecting financial statements, conducting fundamental analysis, and seeking out high potential, undervalued tech companies. Our equity portfolio has outperformed the S&P 500 while maintaining a beta of one during the time that I held this position. **Teaching assistant and tutor** Westminster CollegeAugust 2015-Present Westminster’s Division of Cognitive and Quantitative Sciences selected me during my first year to tutor students and serve as a teaching assistant in mathematics and computer science. I assisted professors in grading and working with students individually for classes covering coursework in Calculus, Computer Science, and Operations Research. |
| Research | | **Honors Research, Fall 2017-Present**independent REsearch Project with A board of advisors  * Currently drafting a proposal to conduct research into applying a technique pioneered by Numenta, called hierarchical temporal memory, to time series with the ultimate goal of applications in financial time series forecasting. This technology uses cortical learning algorithms to mimic the neocortex and has proven to have applications in anomaly detection for analytics through Numenta’s Grok.  **Blockchain TEchnology, Spring 2018**iNDEPENDENT STUDY WITH DR. John Bonomo (WESTMINSTER COLLEGE)  * Explored the technical details of blockchain technology including Elliptic Curve Cryptography, Network Flow Analysis, and Data Structure alternatives to a Merkle Chain * Developed in smart contracts and explored distributed applications * Currently writing my own distributed application intended to allow users to manage supply chains on personal blockchains over a private peer-to-peer network  **Graph Theory, Fall 2017**Independent Study with dr. nataCha merz (Westminster college)  * Studied Graph Theory and Network Science * Currently conducting research into the balanced or Minimum Absolute Deviation k-Chinese Postmen Problem  **Algorithmic Game Theory, Spring 2017**iNDEPENDENT STUDY WITH DR. CAROLYN CUFF (WESTMINSTER COLLEGE)  * Presented at 2017 MAA Section Meeting and 2017 Undergraduate Research and Arts Celebration * Created multiple algorithms to play multiplayer games  **Optimizing throughput, Cost, and safety in toll booth plazas, Jan 2017**comap International mathematical modelling competition 2017  * Presented at 2017 Pi Mu Epsilon Regional Conference * Lead a team of mathematicians over a single weekend in an international mathematics competition to produce a 20-page research paper and draft a proposal to the New Jersey Turnpike Authority * Received Honorable Mention for our solution, placing us in the top 13 in the United States. |