MATTHEW SUMPTER

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INDUSTRY

Meow Wolf Sep 2022 - Present
Senior Software Engineer

- Develop software solutions to deliver experiences that cross the boundaries of the physical and the digital.
- Contribute to regular code reviews
- Contribute to regular backlog grooming and sprint planning exercises
- ***Tech:*** React, Typescript, GraphQL, JavaScript, HTML, CSS, Python, Google Cloud

Sandia National Laboratories Jul 2021 - Aug 2022
R&D Software Engineer

- Worked within a cross-functional team of 10+ software engineers and specialists to drive backend services for the company, developing of several backend endpoints in Java with Spring Boot to improve efficiencies of internal systems.
- Led a series of process optimization initiatives to streamline workflow for 800+ hours of manual tasks, leveraging tools such as Cypress.io to automate processes that saved over $45K in labor costs per year for the team.
- Trained 2 developers for Cypress end-to-end testing, coaching employees to ensure the team exceeds all performance metrics while maintaining 100% staff retention.
- Granted and maintained a DOE Q Clearance
- ***Tech:*** Java, Spring Boot, Kubernetes, Typescript, ReactJS, Cypress, Docker

SOFWERX Jan 2019 - May 2019
Primary Supervisor, David Salvador
Data Science Intern

- Managed and coordinated a suite of projects for a team of 8+ interns, delivering and presenting technical requirements to senior leaders to help drive over $7.8MM in annual revenue for the organization.
- Spearheaded the development of a rapid proof-of-concept to secure an additional $40K in research and development funding, meeting 100% of project deadlines within a condensed 10-week timeline.
- Partnered with software and electrical engineering professionals to train on data science and engineering industry standards, building relationships within the department to develop technical expertise.

EDUCATION

Masters of Science, Computer Science, University of South Florida Aug 2019 - May 2021
GPA: 4.0/4.0
Relevant Coursework: Data Mining, Machine Learning, Deep Learning, Social Media Mining, Network Science, Advanced Databases, Interactive Data Visualization
Advisor: Dr. Giovanni Luca Ciampaglia

Bachelor of Science, Physics, Florida State University Aug 2009 - Dec 2012
GPA: 3.25/4.0
Minor in Mathematics
Graduated with Honors
Advisor: Dr. Huan Xiang-Zhou

RESEARCH

Graphics and Visualization Lab Jan 2021 - Jun 2021
USF Computer Science and Engineering Department
Primary Investigator, Dr. Paul Rosen
Graduate Research Assistant

- Built a community-driven interactive map to communicate air pollution trends in Kansas City and promote grassroots activism. Project was contracted by the environmental non-profit, CleanAirNow Kansas City.
- ***Tech:*** HTML/CSS, JavaScript, D3.js, Leaflet.js, RESTful APIs

Computational Sociodynamics Lab Jan 2020 - Jun 2021
USF Computer Science and Engineering Department
Primary Investigator, Dr. Giovanni Luca Ciampaglia
Graduate Research Assistant

- Investigated graph mining methods for generating and generalizing belief systems of online communities
- Developed an end-to-end pipeline for semantic triple extraction and ontology matching for the purpose of automated fact-checking
- Developed trend and sentiment analysis for the temporal evolution of Twitter data related to the COVID-19 pandemic
- ***Tech:*** Python, Numpy, Scikit-Learn, Tensorflow, RESTful APIs

Cyber Identity and Behavior Research Lab May 2019 - Jun 2021
USF Computer Science and Engineering Department
Primary Investigator, Dr. Tempestt Neal
Graduate Research Assistant

- Investigated trends in an online user's response to credibility warnings that preclude a news report, using qualitative and quantitative survey analysis
- Developed a novel technique for the fuzzy classification of writing samples by rhetorical modes
- Investigated techniques for multi-modal mobile authentication using both front-facing camera images and various sensor readings
- ***Tech:*** Python, NumPy, Scikit-Learn, Tensorflow, Qualtrics, Tableau, Android Studio (Java)

TEACHING EXPERIENCE

University of South Florida, Tampa, FL Aug 2019 - May 2021
Teaching Assistant

- Tutored 150+ students while teaching undergraduate level courses for 4 semesters, developing 15+ programming assignments for current and future iterations of the course to support department objectives
- Fall 2020/Spring 2021: Quantum Computing (*Dr. Richard Rauscher*)
- Spring 2020: Data Structures (*Dr. William Hendrix*)
- Fall 2019: Senior Project in Info Tech (*Dr. Richard Rauscher*), Data Structures (*Dr. Valentina Korzhova*)

Club Z Tutoring, Tampa, FL Oct 2017 - May 2018
Tutor

- Tutored ages 10 - 17
- Mathematics: Algebra, Geometry, Pre-Calculus, Calculus
- Sciences: Physics (with and without calculus), Chemistry
- SAT Math and Grammar

Insight Adventures, Yangshuo, Guangxi Province, China Aug 2016 - Aug 2017
Outdoor Educator

- Taught lessons on rock climbing technique, kayaking technique, survival skills, orienteering, navigation, Leave-No-Trace ethics, and basic first-aid to K-12 international students
- Trained employees on high-rope safety skills and self-rescue
- Organized and managed a community service project for Hong Kong students to install a municipal water line to a rural school
- Organized and managed a community service project for Shanghai students to beautify a school for ASD students, including mural painting, garden creation, and peer learning

PUBLICATIONS

Peer-Reviewed

1. **M Sumpter** and GL Ciampaglia. (2021). Preserving the Integrity and Credibility of the Online Information Ecosystem. *IEEE Data Engineering* (http://sites.computer.org/debull/A21sept/p4.pdf)
2. RA Proma, **M Sumpter**, H Lugo, E Friedman, KT Huq, P Rosen. (2021). CleanAirNowKC: Building Community Power by Improving Data Accessibility. *IEEE Workshop on Visualization for Social Good* (https://vis4good.github.io/papers/2021/proma.pdf)
3. **M Sumpter** and T Neal. (2021). User Perceptions of Article Credibility Warnings: Towards Understanding the Influence of Journalists and AI Agents. *MEDIATE 2021 (AAAI ICWSM)* (http://workshop-proceedings.icwsm.org/pdf/2021_64.pdf)
4. **M Sumpter** and GL Ciampaglia. (2021). REMOD: Relation Extraction for Modeling Online Discourse. *KnOD'21* (https://arxiv.org/abs/2102.11105)
5. J Oberstaller, SR Adapa, GW Dayhoff II, J Gibbons, TE Keller, C Li, J Lim, M Pham, A Sarkar, R Sharma, AH Wani, A Vianello, LM Duong, Ch Wang, CGF Atkinson, M Barrow, NW Van Bibber, J Dahrendorff, DAE Dean, O Dokur, GC Ferreira1, M Hastings, GS Herbert, KT Huq, Y Kim, X Liao, X Liu, F Mansuri, LB Martin, EM Miller, O Natarajan, J Pang, F Prieto, PW Radulovic, V Sheth, **M Sumpter**, D Sutheland, N Vijayakumar, and R Jiang. Uncovering host-microbiome interactions in global systems with collaborative programming: a novel approach integrating social and data sciences [version 1; peer review: 1 approved with reservations]. F1000Research 2020, 9:1478 (https://doi.org/10.12688/f1000research.26459.1)
6. AC Miklos, **M Sumpter**, and H-X Zhou (2013) Competitive interactions of ligands and macromolecular crowders with maltose binding protein. *PLoS ONE 8*, e74969

Theses

1. **M Sumpter** (2012) Macromolecular Crowding Effects on Protein-Ligand Binding Equilibrium. B.Sc. Honors Thesis. Florida State University.

PRESENTATIONS

- **Workshop Presentation**: *User Perceptions of Article Credibility Warnings: Towards Understanding the Influence of Journalists and AI Agents.* MEDIATE 2021 (AAAI ICWSM), June 2021.
- **Workshop Presentation**: *REMOD: Relation Extraction for Modeling Online Discourse.* Workshop on Knowledge Graphs for Online Discourse Analysis, April 2021.
- **Poster Presentation**: *Continuous Multimodal Mobile Authentication: An Exploratory Study.* USF Research Experience for Undergraduate Poster Session, July 2019.
- **Undergraduate Thesis Defense**: *Macromolecular Crowding Effects on Protein-Ligand Binding Equilibrium*, December 2012.