Alexander Caceres-Wright

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EDUCATION

Doctor of Philosophy: Computer Science, College University, City, State. *Currently In Progress*
Expected Graduation: December 2028
Advisor: Dr. Doctor McSmart
Co-Advisor: Dr. McAdvisor VonSmartnick
Dissertation: People Talk Online: What, Why, and How

Master of Science: Computer Science and Engineering, University at Buffalo (SUNY), Buffalo, New York, June 2024

Bachelor of Arts: Cognitive Systems, University of British Columbia, Vancouver, Canada, May 2022
Minor: Psychology

SKILLS & TOOLS

Large Language Models: Llama, BERT
Data Management & Analytics: SQL, R, PostgreSQL, PGAdmin4, Firebase Realtime Database, Pyspark
Programming Languages: Python, Java, C++, C, Haskell, JavaScript
Tools: Git, Jupyter, Visual Studio, LaTeX, JetBrains Suite, JUnit Testing, Flask, Pandas, Matplotlib
Languages: English (Fluent), Spanish (Fluent)

WORK EXPERIENCE

Teaching Assistant, School, City, State. Soon – Not So Soon
- Assisting with the instruction of CLASS
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Data and Analytics Intern, s-cubed: Strategic Sustainability Solutions, New York, NY, September 2024 – Present
- Analyzing financial and environmental data to identify sustainable and profitable business practices
- Streamlining data processing pipelines to ensure highest quality and efficiency
- Incorporating data from several distinct sources to strengthen underlying methodology

Research Assistant, cUBe Lab at the University at Buffalo, Buffalo, NY. June 2023 – Present
- Constructed tools for stance detection using Large Language Models applied to 15 million tweets from the 2020 US Presidential Election. Ran experiments to evaluate LLM prompts and parameters.
- Investigating how individuals express their identity online, and how individuals who express the same identity in different geographic regions speak about shared topics

Member Service Representative, Lockport Family YMCA, Lockport, NY. September 2023 – May 2024
- Greeted each member upon entry, answer questions and phone calls, and give tours to prospective members
- Ensured information for each member is accurate, engaging with members and other staff when issues arise

Student Assistant, X-Lab at the University at Buffalo, Buffalo, NY. June 2023 – August 2023
- Researched and developed indices of interdisciplinarity using natural language processing
- Completed a literature search aiming to incorporate best previous results into our index

Teaching Assistant, University of British Columbia, Vancouver, BC. January 2020 – December 2020
- Duties included running labs, holding office hours, and grading assignments and exams
- Mentored roughly 30 students per semester as they worked on a term-long project. Helped guide design and implementation, and helped debug issues, through weekly 1:1 meetings

PROJECTS

Simulating Trading Models. Python, QuantConnect, Zipline, Pandas, Matplotlib
- Developed simple stock trading models based on various technical indicators such as the Relative Strength Index
- Backtested the models using various frameworks on the stocks of the S&P 500

Museum Interactive Scavenger Hunt. Python, Flask, Firebase Realtime Database, Javascript, CSS
- Implemented a full-stack application for the Niagara Aerospace Museum for visitors to complete a scavenger hunt
- Allows curators to enter or edit clues and exhibits, and visitors to customize the length and difficulty of their hunt

Financial Literacy Application: UB Hacking: Fall 2022 (Hackathon, 1st Place). SQL, JavaFX
- Won first place prize with a prototype JavaFX application aimed at centralizing financial information new immigrants may find useful, such as on banking, Free Application for Federal Student Aid (FAFSA), housing, etc.
- Prompted users with a questionnaire to tailor information they were presented. Stored survey responses in a mySQL database along with a username and password for later retrieval

Research in Cognitive Systems. Python, Git, oTree, R

- Worked as a research assistant in a psychology laboratory programming a variation of the public goods game using the oTree framework
- Utilized this software to collect data and wrote a report of the findings in context of relevant work

Pintos Simple Operating System C
- Developed part of an operating system as part of a course
- Implemented several scheduling algorithms, priority donation, memory management, as well as some user interaction

Text Chat Application C++
- Implemented both server and client side methods such as sending and receiving messages, and blocking other clients
- Created functionality to analyze server side statistics including IP addresses, and ports of logged in clients, and tracking of number of sent and received messages

Modeling Internet Packet Protocols C++
- Implemented several packet transmission protocols such as the selective repeat and Go-Back-N
- Analyzed performance of the protocols via testing and summarized findings in a report

Lossy Image Compression C++
- Compressed images using a space partition tree which minimizes color variability across partitions
- Precomputed color statistics for each region

Book Management System. Java, JavaFX
- Allowed users to enter and edit details such as title, author, subject, and length
- Saved and loaded data for use across sessions
- Implemented both a command line and graphical user interface

PUBLICATIONS

1. **A. Caceres-Wright**, N. Udhayasankar, G. Bunn, S. Shuster, and K. Joseph, "Explicit Stance Detection in the Political Domain: A New Concept and Associated Dataset", 2024 International Conference on Social Computing, Behavioral-Cultural Modeling & Prediction and Behavior Representation (SBP-BRiMS)
    - **Runner Up: Best Student-Led Paper Award.**

POSTERS

1. **A. Caceres-Wright**, G. Bunn, S. Shuster, and K. Joseph, "Who supports Bernie? Analyzing identity and ideological variation of Bernie supporters on Twitter", 2024 International Conference on Computational Social Science (IC2S2)

ACADEMIC SERVICE

1. **Reviewer**, 2025 International Conference on Computational Social Science (IC2S2)
2. **Reviewer**, 2024 International Conference on Social Computing, Behavioral-Cultural Modeling & Prediction and Behavior Representation (SBP-BRiMS).

PROFESSIONAL MEMBERSHIP

Member, Association for the Advancement of Artificial Intelligence (AAAI), Some Point Soon–Some Point Further Away
Member, Association for Computing Machinery (ACM). January 2023–Present

AWARDS & INVOLVEMENT

Runner Up: Best Student-Led Paper Award. SBP-BRiMS, September 18–20, 2024
Summer School on Foundations of Data Science. Bryn Mawr College, June 27–28, 2023
Bloomberg Accelerator Summer School. Virtual, June 2023
First Place Prize, M&T Bank's An Innovative Way to Promote Financial Understanding and Well Being Award. UB Hacking: Fall 2022 (Hackathon). November 5–6, 2022
Outstanding International Student Award. University of British Columbia. Academic Year 2017–2018
Second Degree Black Belt, Kyokushin Karate. Ken Wa Kan Karate, New York City. Achieved March 15, 2015
Assistant Karate Instructor. Ken Wa Kan Karate and Public School 11, New York City. Winter 2010–Summer 2017

RELEVANT COURSEWORK

Applied Machine Learning; Computational Investment; Computational Linguistics; Data Models and Query Languages; Databases in Data Science; Operating Systems; Modern Network Concepts; Computer Security; Introduction to Artificial Intelligence; Software Construction; Functional and Logical Programming; Basic Algorithms and Data Structures; Pragmatics; Psychology of Language; Understanding and Designing Cognitive Systems

FURTHER LEARNING

Applied Data Science in Python Specialization. University of Michigan via Coursera. *Currently in Progress*
Mathematics for Machine Learning Specialization. Imperial College London via Coursera. *Currently in Progress*
Machine Learning Specialization. Stanford University & Deeplearning.AI via Coursera. Completed September 17, 2024