KATHERINE TU

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RESEARCH STATEMENT

I am interested in computational rhetoric and computational linguistics, formal languages, general linguistics, and natural languages.

WORK EXPERIENCE

Software Engineer, March 2020 - Present
Trulioo   ReactJS/Typescript, NodeJS, Jest, Kotlin

- Designed and developed web application in React and Node

Quality Assurance Engineer, August 2019 - March 2020
Trulioo   Javascript, C#, Selenium, SQL, AWS

- Scripted and regularly deployed performance tests simultaneously on twelve EC2 instances using Javascript, JMeter and AWS

- Wrote UI automation framework using C# and Selenium, and helped configure it to run daily

- Designed and implemented test cases and mock REST/SOAP webservices for rigorous coverage

Webmaster and Lead Research Assistant, May 2018 - June 2019
RhetFig, University of Waterloo   Javascript, PHP, Python, SQL

- Updated and maintained the RhetFig website codebase, database, and annotations, using CSS, HTML, Javascript, PHP, Python and mySQL

- Developed a cognitive-based ontology with a small team in OWL

- Assisted with the design of our Javascript gamified crowd-sourcing project, GoFigure

- Managed and trained other research assistants, alongside completing my own research

Web Programmer, January 2011 - April 2011
Co-operative Education and Career Action (CECA), University of Waterloo   Javascript, PHP, SQL

- Built the application for collaborative reports for the School of Pharmacy using PHP and mySQL

- Implemented the back-end for internal staff website in JavaScript

- Developed applications for career fair sign-ups requiring financial transactions using PHP

- Acted as the webmaster and completed daily bug fixes on live and internal sites

Macro and Database Programmer, May 2010 - August 2010
Asset Management & Procurement, Canadian Revenue Agency   Visual Basic, SQL

- Developed the interface and back-end for database to be used by procurement teams in Microsoft Access (using Visual Basic and SQL)

- Implemented macro scripts for asset-tracking and supplier evaluation spreadsheets in Excel

EDUCATION

Bachelor's of Computer Science (French minor), University of Waterloo

- Recipient of the Rosa McEachern Memorial Award, Spring 2015

Master's of English (Rhetoric and Communication Design), University of Waterloo

- Analysed linguistic patterns in literary texts using Python and Stanford CoreNLP as part of my major research project

- Recipient of the DiMarco Graduate Scholarship in Computational Rhetoric, Winter 2019

PUBLICATIONS AND PRESENTATIONS

An Ontological Approach to Meaning Making through PATH and Gestalt Foregrounding in Climax. With Lillian A Black (Senior author, formerly TW Black), Cliff O'Reilly, Yetian Wang, Paulo Pacheco, and Randy Allen Harris. 17 July 2019. The American Journal of Semiotics.

Rhetorical figures as cognitive: A case study of Isocolon. The Canadian Society for the Study of Rhetoric. Vancouver, Canada. 4–6 June 19.

Prosody as iconicity: isocolon's semantic and rhetorical homogeneity effects. Iconicity in Language and Literature. Lund, Sweden. 3–5 May 19.

A climactic ontology. With Cliff O'Reilly (Senior author), Yetian Wang, Sarah Bott, Paulo Pacheco, Tyler William Black, and Randy Allen Harris. International Association for Cognitive Semiotics. Toronto ON. 14 July 18.

Arguments in gradatio, incrementum and climax, a climax ontology. With Cliff O'Reilly (Senior author), Yetian Wang, Sarah Bott, Paulo Pacheco, Tyler William Black, and Randy Allen Harris. CMNA XVIII - Computational Models of Natural Argument. Proceedings. Liverpool, UK, 6 April 18. Presented by O'Reilly.

WORK AND VOLUNTEER EXPERIENCE

Lead Developer, September 2019 - Present
RhetFig, University of Waterloo

Designed architecture of website and database

Working on database migration and training co-op students

ENGL109 Teaching Assistant, January 2018 - April 2018, January 2019 - April 2019
University of Waterloo

FR192A&B Teaching Assistant, May 2015 - August 2015, September 2016 - May 2017
French Department, University of Waterloo

Editor, March 2014 - June 2016, September 2016 - January 2018
mathNEWS, University of Waterloo

Vice President, Operations, January 2016 - March 2016
Mathematics Society, University of Waterloo

Vice President, Academic, May 2015 - August 2015
Mathematics Society, University of Waterloo