

EDUCATION

Ph.D., Computer Science

Wright State University
Fairborn, Ohio

July 2020

Master of Science, Computer Science

GPA: 3.83
Wright State University
Fairborn, Ohio

July 2017

Bachelor of Science, Computer Science

GPA: 3.90
Wright State University
Fairborn, Ohio

July 2016

WORK EXPERIENCE

DAGSI Fellow

Wright State University, Data Semantics Lab
Dayton Area Graduate Studies Institute

United States Airforce, 711th Human Performance Wing, RHCV (Battlespace Visualization)

- Ingest and model latent information from microtext and microblogging platforms
- Evaluate different visualization techniques for relationships between hierarchical concepts
- Develop metrics and tools for conducting semi-supervised assessment of trust in provenance of latent information extracted from microtext

**Summer 2017-
Present**

Graduate Council Scholar

Wright State University, Data Semantics Lab

- Develop metrics and tools for conducting semi-supervised assessment of the Trustworthiness and Reliability of Automatically Populated Knowledge Bases
- Design and implement a framework for ingesting emergency data and detecting the presence of unknown chemicals via knowledge base reasoning
- Developed an intuitive Description Logic inspired syntax for reading OWL files, made the appropriate changes to the OWLAPI (<https://github.com/owlcs/owlapi>).

**Fall 2016 -
Summer 2017**

Data Science Intern

Illumination Works

- Develop a metadata driven framework for Extraction, Transformation, and Loading (ETL) operations in Python
- Prototype a framework for multispectral image ingestion & analysis using Python and Hadoop Map Reduce
- Examine the Feasibility of Natural Language Processing (NLP) techniques for synonym disambiguation using PySpark
- Liaise with the Data Semantics Lab at Wright State for potential SBIR opportunities

**Spring 2015 -
Present**

Undergraduate Researcher

Wright State University, Data Semantics Lab

**Spring 2015 -
Summer 2016**

- Conduct research in Ontology Design Patterns (ODP) for Research Experience for Undergraduates (REU) supplement to National Science Foundation (NSF) award 1440202 under Dr. Pascal Hitzler
- Involved in the development of a Smart Cities Augmentation for aiding Emergency Personnel respond to catastrophic situations for NSF Award 1528550 under Dr. Michelle Cheatham
- Research methods and techniques for Neural-symbolic integration, Semantic Web Technologies, and description logics

Teaching Assistant

Wright State University, Discrete Structures & their Algorithms

**Spring 2015 -
Summer 2016**

- Lead recitations of 20+ students in Discrete Math and Logic

Teaching Assistant

Wright State University, Logic for Computer Scientists

Fall 2015

- Provide supplemental material support to 50+ students

PROJECTS

Knowledge Analytics using Semantic Technologies (KAST)

Dayton Area Graduate Studies Institute

- Ingest and visualize multi-modal data with a strong spatial-temporal component
- Leverage NLP and semantic web technologies to populate ontologies from microtext
- Perform innovative research regarding the visualization of data with differing levels of confidence

Disaster Data and Tagging Application

Senior Capstone Project

- Utilizes NLP, Machine Learning, and Semantic Web technologies to determine location and severity of localized hazards via social media mining
- Nominated to Senior Design Showcase

Dementia Gaming App

Health Informatics Group, Dr. Tanvi Banerjee

- Investigate use of Computer Adaptive Testing (CAT) to identify trends in change of (self-reported) mood and mindset based on performance in simple Word Scramble Games and use results to assess cognitive function in older adults
- Develop a Fuzzy Logic Rules System to determine relative complexity of game subtasks and likelihood of change in mood or mindset.

Smart Cities Augmentation for aiding Emergency Personnel Response

NSF Award 1528550, Dr. Michelle Cheatham

- Develop a framework for the automated ingestion of Material Safety Data Sheets and Emergency Responder Medical Run Sheets in order to determine the presence of chemicals based on presentation of symptoms in treated patients

Materials Ontology

Air Force Research Laboratory, Clare Paul and Dr. Pascal Hitzler

- Develop a set of Ontology Design Patterns for expressing the properties of materials under certain environmental conditions while maintaining provenance of the determined property
- Ingest material properties from trusted sources and populate an ontology with respect to the developed patterns

PROFESSIONAL SERVICE

Program Committee <i>Workshop on Ontology and Semantic Web Patterns, International Semantic Web Conference</i>	2016-2017
Sub-reviewer <i>International Semantic Web Conference</i>	2017
Sub-reviewer <i>International Conference on Knowledge Engineering and Knowledge Management</i>	2016
Invited Speaker <i>Medicaid Technical Assistance and Policy Program</i>	2016

COMMUNITY ENGAGEMENT

Open Source Contributor <i>OWLAPI (https://github.com/owlcs/owlapi)</i>	2017-Present
CECS Peer Mentor <i>College of Engineering & Computer Science, WSU</i>	2016-Present
CECS Student Ambassador <i>College of Engineering & Computer Science, WSU</i>	2016-Present
Science Olympiad Volunteer <i>Lima Shawnee High School & Wright State University</i>	2014-Present
Computer Science Helproom Volunteer <i>Wright State University</i>	2014-Present
Raider Coach <i>Horace Mann Elementary</i>	Spring 2015

HONORS AND AWARDS

DAGSI Fellowship	Summer 2017-Summer 2018
Nominated Best Student (M.S.) Computer Science	Spring 2016
Graduate Council Scholar Fellowship	Fall 2016 – Summer 2017
Dean's List, Highest Honors	Fall 2013 – Summer 2016
RW Summer School Travel Grant (NSF)	Fall 2016
Outstanding Student Award, Dept. of CS, B.S. program	Spring 2016
Dean's Showcase Nominee	Spring 2016
Certificate of Achievement	Spring 2016
Accepted to Computer Science 4+1 Program	Fall 2015
Nominated to Phi Kappa Rho	Fall 2015
Nominated to Tau Beta Pi	Fall 2015
NAECON Grant Recipient	2015-2016
KittyHawk Scholarship Award	2015-2016
Ohio College Opportunity Grant	2015-2016

EVENTS

Web Reasoning Summer School	Fall 2016
GeoVocampDC	Fall 2016, 2017