

Cory Edwards

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Profile

A programmer, researcher and collaborator inside of a university or business. Focused on bettering humanity by researching new algorithms to speed up dynamic learning to discover Artificial Intelligence's (AI) potential.

Education

Bachelor of Arts in Computer Science and Mathematics double major

Malone University, Canton, Ohio graduated May 2018

- Completed 15 credit hours of research and have three credit hours in progress
- Achieved the Dean's List in Fall 2015, Spring 2016, Fall 2016, Fall 2017, and Spring 2018

Master of Computer Science

University of Iowa, Iowa City, Iowa expected May 2020

Certificates earned on Coursera

- Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization by deeplearning.ai. Certificate earned on August 19, 2017
- Neural Networks and Deep Learning by deeplearning.ai. Certificate earned on August 18, 2017
- Structuring Machine Learning Projects by deeplearning.ai. Certificate earned on August 19, 2017
- Machine Learning by Stanford University. Certificate earned on February 27, 2016
- Convolutional Neural Networks by deeplearning.ai on Coursera. Certificate earned on November 5, 2017
- Sequence Models by deeplearning.ai on Coursera. Certificate earned on Sunday, February 4, 2018
- Deep Learning, a 5-course specialization by deeplearning.ai on Coursera. Specialization Certificate earned on February 4, 2018

Research Experience

- Conducted four years of research into my own AI which has been split up into an environment and an algorithm called Abstract Dynamic Multi-tasking End-to-end Algorithm (ADMEA) <https://github.com/14corman/ADMEA>
- Developed and implemented a game called Game of Life and Death (GOLAD) to test ADMEA by comparing it against human, random AI, and an AI that makes calculated moves
- Coded a website and SQL database to host and collect data for GOLAD
- Assembled a Genetic algorithm to play tic tac toe

Professional Experience

Malone University, Canton, Ohio

May 2016 to Present

National Science Foundation (NSF) Research project lead

- Worked on multiple interdisciplinary projects under Malone's NSF grant
 - Programmed and implemented a system that automated the review process of web sites. Thus, upgrading the Health Co-Inquiry group from analyzing five to ten URLs per month to over 1,000 URLs in less than five minutes
 - Created a web application and batch system that combines multiple data sources – United States Geological Survey (USGS), National Oceanic and Atmospheric Administration (NOAA), US Census, Center for Disease Control (CDC) ArboNet – to enhance research to find patterns of infection of West Nile Virus for Dr. Lisa Beltz
 - Constructed a web application and batch system that combines multiple public data sources – NOAA, Cornell's eBird system, USGS – to enhance research in migratory birds for Dr. Jason Courter

- Engineered and lead design with a team on three Apache Tomcat website front and back ends using Github and five databases in Microsoft Structured Query Language (SQL) Server
- Built and maintained a Shibboleth Single Sign On (SSO) Service Provider backend for InCommon Federated Authentication
- Lead research into design, architecture, and implementation of two Data Transfer Nodes (DTN) for Malone's Science Demilitarized Zone (DMZ)
- Designed, implemented, and maintained a Representational State Transfer (RESTful) API for Malone's NSF projects
- Developed and implemented a Shibboleth 2 Discovery Service for a Service Provider

Publications

- Seifert, L.S., Kaelber, K., Flaherty, K., Edwards, C., Ferrel, J., Schmucker, T., Using a WebCrawler in Health-Co-Inquiry: A Bifurcated Method. In preparation
- Beltz, L, Edwards, C, Muriuki, L, Klemann, A, Different Relationships between Climatic Factors and West Nile Virus Disease Incidence in Humans and Mosquitoes among the California Counties accepted to ASM Microbe in June 2018

Talks

- Association of Information Technology Professionals (AITP) talk on, *ADMEA* at Malone University in October 2017
- Sigma Zeta National Honors Society talk on, *History Modifications to Genetic Algorithm: Remembering Previous Generations* at Evangel University in March 2018

Poster Presentations

- Edwards, C.J. (2017, April). *AIA (Artificial Intelligence Algorithm)*. Presented at Student Research Symposium: A Celebration of Scholarship and Creative Expression, Canton, Ohio.
- Edwards, C.J. (2016, April). *Machine learning using tic tac toe*. Presented at Student Research Symposium: A Celebration of Scholarship and Creative Expression, Canton, Ohio.
- Edwards, C.J. (2016, April). *Super capacitor technology*. Presented at Student Research Symposium: A Celebration of Scholarship and Creative Expression, Canton, Ohio.

Additional Skills

- Programming experience in Python, PHP, Javascript, HTML, Java, C#, C++, LISP, Octave, Swift 4, CSS
- Practice in regression, classification, neural networks, deep neural networks, Q learning, genetic algorithms, Bayesian algorithm, decision tree, K means algorithm, dimensionality reduction, Convolutional Neural Networks
- Background in Principle component analysis, Support Vector Machine, Gaussian Kernel, Stochastic gradient descent, Mini batch gradient descent, Multivariate Gaussian, Optical Character Recognition

Organizational and Club Involvement

- Sigma Zeta National Honor Society fall 2017-2018
- Malone University Chess Club fall 2014-2018

Career Goals

- Research and develop an AI to come as close to having a consciousness and showing all the human experience as much as possible.
- Collaborating with other researchers to advance the field of Machine Learning and AI.