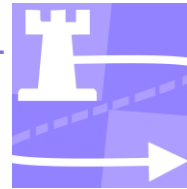


Drew Hicks

Building systems that learn with their users

UX RESEARCHER + DATA SCIENTIST

phone: 304-210-1440
email: drew@drewhicks.com
linkedin.com/in/drewghicks



SKILLS

Data Analysis + Data Vis

Tableau, RStudio, Matplotlib, SPSS, SQL, MongoDB, Snowflake, Hive, DataBricks, Spark, NumPy, SciPy, Pandas

Machine Learning + AI

NLTK, Keras, Gensim, spaCy, TensorFlow, PyTorch, Theano, SciKit-Learn, Topic Detection, Sentiment Analysis

UX Research

Quantitative Research, Survey Design, Experimental Design, Statistical Analysis, Qualitative Research, Focus Groups

PREVIOUS ROLES

Senior UX Data Researcher — EPIC GAMES (Cary, NC)

JANUARY 2019 – SEPTEMBER 2023

- Visualized and categorized thousands of open-ended survey responses using Python tools like Gensim and VADER, and linked these responses with gameplay data (including percentile Elo rating and preferred game mode) to derive unique Fortnite player types.
- Collaborated with developers to design and maintain a CMS-driven post-match survey system for Fortnite, built Tableau dashboards providing instant sentiment and balance feedback on new items and features assisting in the engagement and retention of over 100 million players.
- Built and analyzed large scale surveys comparing Fortnite players' pop-culture and thematic preferences to an external panel, helping identify highly resonant partnership opportunities that led to record player engagement - over 50 million dollars for single activations.

Cognitive Software Developer — IBM WATSON HEALTH (Durham, NC)

JUNE 2016 - JANUARY 2019

- Designed, trained, and deployed Machine Learning models based on various architectures (LSTMs, Autoencoders) using Python and tools like NLTK, Theano, Keras, and Gensim.
- Augmented off-the-shelf pre-trained word embedding models to improve annotation confidence by up to 10% on domain-specific medical vocabulary through the use of an additional "attention layer". Coauthored three patents based on this work.
- With a team of three, designed and implemented an API to make our models available across the IBM Watson ecosystem, following a microservices architecture, using tools like Flask, Redis, and Docker.

Research Assistant — TERC / NC STATE (Raleigh, NC)

AUGUST 2012 - DECEMBER 2017

- Developed a Unity puzzle game using C# to teach novice programming concepts, using "deep gamification" principles to scaffold higher-quality user-generated content via player-facing level editors. The new tools reduced low quality submissions by 88% without impacting overall submissions.
- Visualized and analyzed graphs of collected player solutions to determine the difficulty and conceptual content of submitted puzzles, and implemented a data-driven recommender system to automatically present users with puzzles that match their current skill set and knowledge.
- Used maximal cliques to identify highly influential "hub" players in a social networking game, whose game activity was statistically correlated with increased activity of other players, and procedurally generated game objectives to link players to their most active peers.
- Used RStudio and igraph to visualize networks of player solutions in a physics-based Java puzzle game, identifying areas where players frequently became stuck. Used regression analysis to demonstrate that these problem areas were negatively correlated with players' average scores on a later assignment.
- Prototyped a "digital layer" detective game for Discovery Place Science Museum to enhance engagement with older analog exhibits, as well as help balance foot traffic throughout the museum.

EDUCATION

■ Ph.D. in Computer Science

NORTH CAROLINA STATE UNIVERSITY (RALEIGH, NC) - 2017

■ M.S. in Computing and Informatics

UNIVERSITY OF NORTH CAROLINA - CHARLOTTE (CHARLOTTE, NC) - 2012

■ B.S. in Computer Science

MARIETTA COLLEGE (MARIETTA, OH) - 2009

AWARDS + SERVICE

- Board Member for Epic Games' LGBTQIA+ Employee Resource Group, advocating for workplace safety for queer employees and assisting with visibility efforts like Fortnite Rainbow Royale.
- Volunteered with the Queer/Trans Solidarity group, organizing around better accessibility and reduced cost name changes for queer and trans people in Durham
- Selected for the Graduate Research Fellowship sponsored by the National Science Foundation. (\$42,000 ANNUALLY, 2011-2014)
- Conducted outreach through STARS Alliance and SPARCS, teaching afterschool programs on Computer Science concepts at schools in Charlotte, Durham and Raleigh.
- Selected for the Graduate Assistantships in Areas of National Need Fellowship. (\$20,000 ANNUALLY, 2009-2011)
- Invited Lecturer for Game Design and Introductory CS - Hellenic-American Educational Foundation Summer Program at Athens College in Psychiko, Greece (SUMMER 2012)
- Invited Speaker @ Intercultural Outreach Programs, UNC Charlotte (MARCH 2012)
- Developed lectures for Discrete Mathematics and Principles of Computer Science, and provided additional tutoring services for these courses.
- Coordinated and developed introductory materials for Global Game Jam @ NCSU (JANUARY 2015)
- President of Marietta College Rainbow Alliance, organized the "Safe Zone" program for Faculty and Staff to show visible support for queer students, the "Let's Talk About It" series of invited lecturers and performers, as well as Drag Bingo events during Pride week. (2008-2009)
- Volunteered with the Academic Resource Center at Marietta College providing Tutoring services for the Mathematics and Computer Science departments.
- Worked as Technology Assistant at Mills Hall Library, assisting library patrons with computer equipment and helping students connect their personal machines to the school network
- Organized independent music concerts on campus as President of the Marietta College Independent Musicians' Council

SELECTED PATENTS + PUBLICATIONS

- Brendan Bull, Andrew Hicks, Scott Robert Carrier, Dwi Sianto Mansjur. "Use of machine learning to characterize reference relationship applied over a citation graph." Patent No. 11144579 (Filed 2019, Granted 2022)
- Dwi Sianto Mansjur, Scott Robert Carrier, Brendan Bull, Andrew Hicks. "Generating a domain-specific phrasal dictionary." Patent No. 11328007 (Filed 2019, Granted 2021)
- Brendan Bull, Paul Lewis Felt, Andrew Hicks. "Identification of co-located artifacts in cognitively analyzed corpora." Patent No. 10971273 (Filed 2018, Granted 2021)
- (DOCTORAL DISSERTATION) Drew Hicks. 2016. "Design Tools and Data-Driven Methods to Facilitate Player Authoring in a Programming Puzzle Game."
- Michael Eagle, Drew Hicks, Barry Peddycord III and Tiffany Barnes. 2015. "Exploring Networks of Problem-Solving Interactions." In Proceedings of the Fifth International Conference on Learning Analytics And Knowledge (LAK '15).
- (BEST PAPER NOMINEE) Drew Hicks, Veronica Catete, Tiffany Barnes. 2014. "Part Of The Game: Changing Level Creation to Identify and Filter Low-Quality User Generated Levels." In Proceedings of the International Conference on the Foundations of Digital Games (FDG '14).
- Samantha L. Finkelstein, Eve Powell, Drew Hicks, Katelyn Doran, Sandhya Rani Charugulla, and Tiffany Barnes. 2010. "SNAG: using social networking games to increase student retention in computer science." In Proceedings of ITiCSE '10).

