

# Samuel Showalter

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## Education

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### University of California Irvine

PHD IN COMPUTER SCIENCE

- **Advisor:** Padhraic Smyth

Sep. 2020 - Present

### University of California Irvine

M.S. IN COMPUTER SCIENCE

- Completed en-route to a PhD; research-track, focus on robust machine learning

Sep. 2020 - June 2022

GPA: 3.97

### DePauw University

B.A. IN MATHEMATICS & B.A. IN ECONOMICS

- **Mathematics Advisor:** Zhixin Wu; **Economics Advisor:** Humberto Barreto

Aug. 2014 - May. 2018

GPA: 4.00

## Publications

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\* Denotes equal contribution


### CONFERENCE

1. Boyd A\*, **Showalter S\***, Mandt S, Smyth P. *Predictive Querying For Autoregressive Neural Sequence Models*. Neural Information Processing Systems (**Oral**), 2022.

### JOURNAL

1. Berque D, Chiba H, Hashizume A, Kurosu M, and **Showalter S**. *Cuteness in Japanese Design: Investigating perceptions of Kawaii among American College Students*, Applied Human Factors and Ergonomics, July 2018, Springer.

### PREPRINT

1. **Showalter S**, Robles E, Seshadri P. *Reframing Crisis Information Extraction as a Lexically Invariant Sequence Tagging Objective with Twitter Data*. Preprint , 2021.
2. **Showalter S** and Wu Z. *Minimizing the Societal Cost of Credit Card Fraud with Limited and Imbalanced Data*, [arXiv:1909.01486](https://arxiv.org/abs/1909.01486), 2019.
3. **Showalter S** and Gropp J. *Validating Weak-form Market Efficiency in U.S. Securities with Trend Deterministic Price Data and Machine Learning*, [arXiv:1909.05151](https://arxiv.org/abs/1909.05151), 2019.

## Experience

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### RESEARCH

#### Amazon Science

APPLIED SCIENTIST: PERSONALIZATION

- Re-designed Amazon's core feed ranking model for high-engagement shop-by-interest
- Implemented five state-of-the-art multi-task learning algorithms with
- MultiRec outperformed baselines by **10+%** over multiple metrics.
- Published multi-task learning paper in Amazon's internal machine learning conference

Irvine, CA

Jun. 2022 - Sep. 2022

#### SRI International

MACHINE LEARNING RESEARCHER

- Researcher with Stanford Research Institute's Competency-aware ML (CAML) team; proposed and built CAMELeon, a RL competency toolkit
- Presented findings highlighting RL failure modes to entire company as invited speaker; **open-sourced by SRI to the research community**

Menlo Park, CA

Jun. 2021 - Sep. 2021

#### National Institute of Standards and Technology (NIST)

QUANTUM COMPUTING RESEARCH FELLOW

- Highly selective national research fellowship (**13% acceptance**) in quantum computing
- Developed Python-based quantum state tomography software to characterize qubits

Boulder, CO

May. 2018 - Aug. 2018

## TECHNICAL

### West Monroe Partners

Chicago, IL

DATA SCIENCE CONSULTANT

Jan. - Aug. 2017 & Aug. 2018 - 2020

- Lead data scientist of a NLP semantic context extraction project for **one of world's largest banks** with 20,000+ databases
- Developed end-to-end, highly-optimized ML pipeline to embed and classify database metadata with Spark, HDFS, and Airflow.
- **Co-winner (\$300k)**, WMP's Innovation Challenge: Auto-ML prototyping framework for DAG-based, composable ML experiments

84.51°

Cincinnati, OH

DATA SCIENTIST: CUSTOM INSIGHTS

May. 2016 - Aug. 2016

- Built outlier detection system for Kroger customer data; **saves 4 - 8 hours per dataset**

## TEACHING & MENTORSHIP

### Lumiere Education

Remote

HIGH SCHOOL / COLLEGE RESEARCH ADVISOR

May. 2021 - Present

- Lumiere pairs PhD candidates with young, driven students across the world that are passionate about research
- Completed projects with 10 students including projects on NLP and Markov Chains, reinforcement learning, and variational inference

### West Monroe Partners

Chicago, IL

CONTENT CREATOR AND INSTRUCTOR: MACHINE LEARNING BOOTCAMP

May 2019 - Dec. 2019

- Co-creator of company-wide ML bootcamp, including lecture content and assessments
- Lecturer for topics including classification, regularization, and unsupervised learning

### DePauw University (DPU)

Greencastle, IN

TEACHING ASSISTANT: DATA SCIENCE (CS 370)

Jan. 2018 - May 2018

- Chosen as TA for first-ever Data Science course at DPU because of my experience in field
- Held weekly office hours, advised student projects, and curated homework assignments

### DePauw University (DPU)

Greencastle, IN

STUDENT CAREER ADVISOR AND TUTOR

Aug. 2015 - May 2017

- Staffed by McDermond Center for Entrepreneurship to assist students in job search
- Reviewed resumes, ran mock interviews, and tutored students in calculus and statistics

### Cloverdale Elementary School

Greencastle, IN

ELEMENTARY SCHOOL TUTOR: MATHEMATICS

Aug. 2014 - May 2016

- Tutored 2<sup>nd</sup> and 3<sup>rd</sup> grade students in basic math as part of STEM after-school program

## Honors & Awards

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### UNIVERSITY OF CALIFORNIA, IRVINE

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|------|---|------------------|
| 2022 | <b>NSF Graduate Research Fellowship</b> , National, selective (~ 10%) PhD fellowship; 3 years of full funding   | United States    |
| 2021 | <b>Hasso-Plattner Institute PhD Fellowship (declined)</b> , PhD fellowship for human-safe, robust ML            | Potsdam, Germany |
| 2020 | <b>UCI ICS Dean's Award</b> , First-year grant of \$10,000 for PhD students with outstanding research potential | Irvine, CA       |

### WEST MONROE PARTNERS

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|------|--|-------------|
| 2019 | <b>West Monroe Innovation Challenge</b> , Co-winner of <b>\$300,000</b> to build consulting-centric autoML prototype | Chicago, IL |
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### DEPAUW UNIVERSITY


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|-----------|---|-----------------|
| May 2018  | <b>H.E.H. Greenleaf Mathematics Award</b> , DePauw University's most outstanding mathematics graduate           | Greencastle, IN |
| May 2018  | <b>Frank T. Carlton Economics Award</b> , DePauw University's most outstanding economics graduate               | Greencastle, IN |
| Apr. 2018 | <b>Prindle Technology Prize</b> , DePauw Univ. award for outstanding research project on technology and ethics  | Greencastle, IN |
| Apr. 2018 | <b>NIST Fellowship</b> , Selective (~ 13%) research fellowship with Natl. Institute of Standards and Technology | Boulder, CO     |
| May 2018  | <b>Randal L. Wilson Economics Award</b> , Annually given to DePauw's most outstanding junior economics major    | Greencastle, IN |
| May 2014  | <b>Edward Rector Scholarship</b> , DePauw University merit scholarship; full tuition and fees for 4 years       | Greencastle, IN |

## Organizations

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## DePauw Data Science Group (DPU DS)

FOUNDER AND PRESIDENT

- Created and led 30+ student data science, machine learning, and AI campus group 
- **3<sup>rd</sup>** place in St. Mary's College Data Science Hackathon in 2018, **1<sup>st</sup>** place in 2019

*Greencastle, IN*

*Sep. 2013 - Jun. 2017*

## DePauw Investment Group

CTO AND CO-PRESIDENT (4-YEAR MEMBER)

- **Managed \$170,000** of university endowment funding as well as trades and risk analysis
- Assisted in funding pitch to alumni donors that was **accepted in 2019 for \$1 million**

*Greencastle, IN*

*Aug. 2017 - May. 2018*

## DePauw Civic Fellows Program

TREASURER (4-YEAR MEMBER)

- 4-year selective civic fellowship focused on outreach in greater Putnam County, IN
- Volunteered with elementary schools, museums, and community clean-up for 50+ hours a semester

*Greencastle, IN*

*Aug. 2017 - Jan. 2018*

## DePauw Management Fellows Program

MEMBER

- Selective management and entrepreneurship group with required courses, events, and mandatory internship
- Attended over 100 hours of extracurricular management/entrepreneurship seminars and events per year

*Greencastle, IN*

*Aug. 2014 - May. 2018*

## Skills

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**DevOps** AWS, Docker, Git, SageMaker, GCP, Airflow, HDFS, Spark, Databricks

**Machine Learning** PyTorch, Tensorflow, Scikit-learn, NumPy, Pandas, CUDA, RLLib, OpenCV, Detectron2

**Programming** Python, Java, C++, SQL, R, LaTeX, Node.js, HTML, CSS

## Presentations

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### MultiRec: Multi-task learning for high-engagement recommendation and feed ranking

AMAZON SCIENCE INTERNSHIP FINAL PRESENTATION

*Irvine, CA*

*Sep. 2022*

### CAMeLeon: A reinforcement learning competency-awareness research package

SRI INTERNATIONAL INTERNSHIP FINAL PRESENTATION

*Menlo Park, CA*

*Sep. 2021*