

Geoffrey Converse

[converseg\[at\]gmail.com](mailto:converseg[at]gmail.com) | github.com/converseg

RELEVANT EXPERIENCE

AI Scientist

Aug. 2021 – Present

FineTune Learning

Remote Position

- Develop generative natural language processing models
- Utilize state-of-the-art methods such as transformers and GPT-3

Graduate Researcher

Aug. 2018 – Aug. 2021

University of Iowa

Iowa City, IA

- Developed machine learning algorithms using Tensorflow and Keras for statistical models in education
- Wrote and published multiple papers in peer-reviewed journals and conferences
- Developed the software package ML2Pvae for R, hosted on CRAN, for others to implement my research techniques

Machine Learning Intern

Summer 2020

American College Testing (ACT)

Iowa City, IA (remote)

- Developed deep learning methods for the knowledge tracing application
- Implemented popular methods involving LSTM and Transformers from previous literature in Python
- Processed large amounts of real-world data to fit existing architectures

EDUCATION

University of Iowa

Iowa City, IA

Ph.D. in Applied Mathematical and Computational Sciences

August 2021

Master's in Computer Science

May 2021

Master's in Mathematics

May 2019

Simpson College

Indianola, IA

Bachelor's in Mathematics and Computer Science, Minor in History

May 2017

SERVICE AND LEADERSHIP

Graduate Student Mentor | University of Iowa

2020

- Led a group of undergraduate students in the Directed Reading Program
- Explained the theory, intuition, and implementation of machine learning methods
- Introduced others to new ideas and literature not seen in their coursework

Grant Reviewer | University of Iowa

2020 – 2021

- Evaluated travel grant applications submitted to the Graduate and Professional Student Government

TECHNICAL SKILLS

Languages/Databases: Python, R, MatLab, Java, MongoDB, SQL

Libraries/Packages: TensorFlow, Keras, pandas, NumPy, ML2Pvae, devtools

Other: LaTeX, Vim, Git

SELECTED PUBLICATIONS (4 OF 7)

- Converse, Oliveira, Pu. "Incorporating Item Response Theory into Knowledge Tracing." In proceedings of the Conference on Artificial Intelligence in Education (AIED), 2021.
- Pu, Converse, Huang. "Deep Performance Factors Analysis for Knowledge Tracing." In proceedings of the Conference on Artificial Intelligence in Education (AIED), 2021.
- Converse, Curi, Oliveira, Templin. "Estimation of Multidimensional Item Response Theory Models with Correlated Latent Traits using Variational Autoencoders." Machine Learning (2021). Volume 110, 1463–1480. DOI 10.1007/s10994-021-06005-7.
- Converse, Curi, Oliveira. "Autoencoders for Educational Assessment." In Proceedings of the Conference on Artificial Intelligence in Education (AIED), 2019.