

David Oniani

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Please visit www.davidoniani.com for my papers, software, and more!

I also make [YouTube videos](#) about AI and Software Engineering.

EDUCATION

- **Luther College** Decorah, IA
B.A. Computer Science, Mathematics (magna cum laude) Aug. 2017 – May. 2021

TECHNICAL SKILLS

- Languages: Python, Modern C++, Rust, Shell script, Go, Haskell, Lua, SQL, Javascript, HTML, CSS.
- Tools and Libraries: Linux, macOS, Neovim, Git, Docker, PyTorch, TensorFlow, scikit-learn, matplotlib, numpy, pandas, Flask.
- Theory: Applied Statistics, Deep Learning, Information Theory, Linear Algebra, Multivariable Calculus, Real Analysis, Topology.
- Other Skills: \LaTeX , Markdown, Technical Writing.

WORK EXPERIENCE

- **University of Pittsburgh** Pittsburgh, PA
Machine Learning Research Scientist Feb. 2022 – Present
 - First-authored papers submitted to major AI/ML, NLP, and informatics conferences and journals.
 - Researching Few-Shot Learning (FSL) strategies for accurate and efficient text classification.
 - Lead architect and engineer of **OMOP CDM**-compliant research data warehouse – **ReDWINE**.
 - Giving lectures, presenting my work, and supporting various projects within **PittNAIL** lab.
- **DawnLight** Palo Alto, CA
Research Engineer Apr. 2021 – Jan. 2022
 - Developed and maintained AI sensing inference runtime for audio and radar (C++ codebase).
 - Architected and trained highly performant CNN-based AI model for human activity detection.
 - Implemented Python APIs and data engineering pipelines for interacting with data platforms.
 - Together with Principal Scientist, wrote C++ library of signal processing algorithms (libdsp).
 - **DawnLight** was **Sequoia Capital** Backed Ambient Intelligence and Edge Computing Startup.
- **Mayo Clinic** Rochester, MN
Artificial Intelligence Researcher Feb. 2020 – Sep. 2020
 - First-authored papers accepted at leading AI and biomedical informatics conferences and journals.
 - Built **chatbot** as extension of GPT-2 model by applying BERT, BioBERT, USE, and tf-idf.
 - Utilized **node2vec** for generating COVID-19 network embeddings and built co-occurrence network.
 - Worked directly under **Dr. Feichen Shen** and **Dr. Yanshan Wang** in division of **Dr. Hongfang Liu**.

SELECT PUBLICATIONS

- **Constructing Co-occurrence Network Embeddings to Assist Association Extraction for COVID-19 and Other Coronavirus Infectious Diseases**
Journal of the American Medical Informatics Association (JAMIA), 2020
First Author
- **A Qualitative Evaluation of Language Models on Automatic Question-Answering for COVID-19**
The 11th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (ACM-BCB), 2020
First Author
- **Social and Behavioral Determinants of Health in the Era of Artificial Intelligence with Electronic Health Records: A Scoping Review**
Health Data Science (HDS), 2021
Co-Author
- **Setting Up Python Development Environment for Use in a Small Classroom**
Midwest Instruction and Computing Symposium (MICS), 2020
Co-Author

OTHER EXPERIENCE

- **Luther College** Decorah, IA
Fall 2019
 - Research in Programming Languages and Type Theory with Dr. Alan K. Zaring
 - Introduced notion of container types into CCL programming language.
 - Designed relational operators and type-checking rules for container types.
 - Research in Artificial Intelligence and Authorship Attribution with Professor Richard K. Merritt Summer 2019
 - Trained convolutional neural networks for image recognition using PyTorch.
 - Wrote Python programs for PDF data extraction, data cleanup, and statistical analysis.
 - Research in Unit Testing with Dr. Roman Yasinovskyy Summer 2018
 - Automated feedback generation for C++ programming course.
 - Redesigned and significantly improved SQL and relational algebra solution checker.

HONORS AND AWARDS

- Multiple Competitive Scholarships, [Luther College](#) (2017 – 2020)
- Recipient of 2 Luther College Dean's Office Summer Research Awards, [Luther College](#) (2018, 2019)
- Dean's List Recipient, [Luther College](#) (All Semesters)
- Selected Startup ([UnleashAR](#)), TOP 200, [Wolves Summit](#), Largest Startup Conference in EU (2017).
- Gold Medal for Academic Excellence, [Ministry of Education and Science of Georgia](#) (2016)
- Multiple-time Finalist, [National Mathematics Olympiad of Georgia](#) (2011 – 2016)
- 7th Place (TOP 10) [National Mathematics Olympiad of Georgia](#) (2014)
- IMO & IPhO Nominee, [Ministry of Education and Science of Georgia](#), (2014)

NATURAL LANGUAGE PROFICIENCY

- English, Native
- Georgian, Native
- Russian, Native
- Mingrelian, Native
- Japanese, Elementary

ACTIVITIES AND MEMBERSHIPS

- Member, Pi Mu Epsilon (Math Honor Society), 2020 – Present
- Member, Association for Computing Machinery (ACM), 2022 – Present

VOLUNTEER EXPERIENCE

- Transparency International Georgia, Georgian Parliamentary Elections' Observation Mission, 2016

OTHER WORK EXPERIENCE

Luther College – Department of Computer Science

Teaching Assistant

Decorah, IA
Aug. 2018 – Jan. 2021

- Computational Models (CS 260) with Dr. Alan K. Zaring (Fall 2020).
- Object-Oriented Programming With Java (CS 252) with Dr. Shafqat A. Shad (Fall 2019).
- Introduction to Computer Science (CS 150) with Dr. Alan K. Zaring (Fall 2018).
- Held help hours and assisted students with homework assignments.
- Attended all classes and answered questions during labs.

Luther College – ITS Workstation

ITS Workstation Support Engineer

Decorah, IA
Jul. 2019 – Aug. 2019

- Was responsible for installing and updating operating systems across campus.
- Troubleshoot technical issues of computer systems.

- Set up new hardware to be used by college students.
- Installed software to be used by faculty for teaching purposes.

Luther College, ITS – Software Development

Web Programmer

Decorah, IA
Jun. 2018 – Dec. 2018

- Contributed to brand new [Norse Hub](#) web system which has successfully replaced [my.luther.edu](#).
- Communicated with team, wrote reports, and attended weekly SCRUM meetings.
- Conducted performance and load testing using JMeter and presented results.
- Created data visualization tool utilizing JavaScript DOM.
- Migrated from Microsoft to Linux server and refactored Python code.

Insta LLC

Sales Representative and Marketing Coordinator

Tbilisi, Georgia
Oct. 2016 – Jun. 2017

- Partook in complete rebuild and redesign of sales and marketing departments.
- Contributed to CRM, was responsible for data gathering, filtering, and entry.
- Managed social media, was responsible for copywriting and image-editing.
- Cold-called and contacted clients to build and maintain long-term relationships.