

# David Oniani

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Visit [oniani.ai](https://oniani.ai) for my papers, software, and more!  
I also make [YouTube videos](#) about AI and Software Engineering.

## EDUCATION

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

## TECHNICAL SKILLS

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

## WORK EXPERIENCE

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- **University of Pittsburgh** Pittsburgh, PA  
Machine Learning Research Scientist Feb. 2022 – Present
  - First-authored papers accepted at major NLP and health informatics conferences and journals.
  - Researching Few-Shot Learning (FSL) strategies for accurate and efficient text classification.
  - Lead architect and engineer of 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 ML 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

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- [A Qualitative Evaluation of Language Models on Automatic Question-Answering for COVID-19](#)  
Proceedings of the 11th ACM International Conference on Bioinformatics, Computational Biology and Health Informatics (ACM-BCB), 2020  
**First Author**, 25 citations
- [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**, 18 citations
- [Toward Improving Health Literacy in Patient Education Materials with Neural Machine Translation Models](#)  
AMIA 2023 Informatics Summit, 2023  
**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

## OTHER EXPERIENCE

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- **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

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- 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)
- 7<sup>th</sup> Place (TOP 10) [National Mathematics Olympiad of Georgia](#) (2014)
- IMO & IPhO Nominee, [Ministry of Education and Science of Georgia](#), (2014)

## NATURAL LANGUAGE PROFICIENCY

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

## ACTIVITIES AND MEMBERSHIPS

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

## VOLUNTEER EXPERIENCE

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

## OTHER WORK EXPERIENCE

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### **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.