

# David Oniani

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Visit [www.davidoniani.com](http://www.davidoniani.com) for my papers, software, and more!

## EDUCATION

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

## TECHNICAL SKILLS

- Languages: Python, Modern C++, Go, Rust, Shell script, 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, Multivariable Calculus, Real Analysis, Topology.
- Other Skills:  $\text{\LaTeX}$ , Markdown, Technical Writing.

## WORK EXPERIENCE

- **University of Pittsburgh** Pittsburgh, PA  
*Machine Learning Research Scientist* Feb. 2022 – Present
  - First-authored papers submitted to leading AI, NLP, and engineering conferences and journals.
  - Researching few-shot and prompt-based learning strategies for 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 lab.
- **DawnLight** (Sequoia Capital Backed Ambient Intelligence and Edge Computing Startup) 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).
- **Mayo Clinic** Rochester, MN  
*Artificial Intelligence Researcher* Feb. 2020 – Sep. 2020
  - First-authored papers accepted at major 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
- A Qualitative Evaluation of Language Models on Automatic Question-Answering for COVID-19
- Social and Behavioral Determinants of Health in the Era of Artificial Intelligence with Electronic Health Records: A Scoping Review
- Setting Up Python Development Environment for Use in a Small Classroom

## RESEARCH EXPERIENCE

- **Luther College** Decorah, IA  
*Research in Programming Languages and Type Theory with Dr. Alan K. Zaring* Fall 2019
  - Extended CCL language and wrote type-checking rules.
  - Introduced the notion of container types into the language.
  - Designed relational operators 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 image and text extraction and data cleanup.
  - Performed extensive set of both statistical and textual analyses using state-of-the-art algorithms.
- *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.
  - Designed testable practice problems for algorithms and data structures course.

## 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 Start-up ([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 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 the 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 the Microsoft to Linux server and refactored Python code.

### **Insta LLC**

*Sales Representative and Marketing Coordinator*

Tbilisi, Georgia  
Oct. 2016 – Jun. 2017

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