

# David Oniani

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For my research papers, projects, and full CV, please visit <https://www.davidoniani.com>.

## Education

08/2017 – 05/2021 (expected) **B.A. Computer Science, Mathematics, CS GPA 3.935, GPA 3.82, [Luther College](#), Decorah, IA.**  
**Relevant courses:** Machine Learning, Applied Statistics (I and II), Data Modeling and Querying, Linear Algebra, Advanced Algorithms and Data Structures, Programming Languages, Operating Systems and Architecture, Object-oriented programming with C++, Computational Models, Topology, Real Analysis, Game Theory.

## Technical Skills

Languages: **Advanced:** Python, Haskell, Shellsript (POSIX-compliant), HTML, CSS.  
**Proficient:** R, Rust, Java, SQL, Javascript, TypeScript, C/C++, Zsh.  
**Acquainted:** Standard ML, Lua, Scheme, VBA, C#, Batch, Prolog.

Tools and Libraries: macOS, Linux, kitty, Neovim, Git, Zola, GitHub, Travis CI, SQLite, Flask, Elasticsearch, Jupyter, RStudio, PyTorch, TensorFlow, nltk, numpy, scipy, networkx, pandas, scikit-learn, OpenCV, OpenCL.

Other Skills:  $\text{\LaTeX}$ , Markdown, Technical Writing.

## Work Experience

02/2020 – 09/2020 **AI Intern, [Mayo Clinic, Kern Center](#), Rochester, MN.**

- Major-authored several papers that got accepted at world's major AI and biomedical informatics conferences/journals (ACM-BCB, JAMIA, etc). Publications available on [my website](#).
- Created automated COVID-19 screening tool based on decision trees to assist nurses and physicians.
- 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](#).
- Wrote set of programs for extracting information from thousands of EHRs (Electronic Health Record).
- Set up Elasticsearch and indexed millions of documents for use in NLP algorithm.
- Drafted several papers and reports, reviewed over 15 state-of-the-art AI/NLP papers.
- Worked directly under [Dr. Feichen Shen](#) and [Dr. Yanshan Wang](#) in the division of [Dr. Hongfang Liu](#).

08/2018 – 12/2019 **Teaching Assistant, [Luther College](#), Decorah, IA.**  
Fall 2020 [Computational Models \(CS 260\)](#) with [Dr. Alan K. Zaring](#).  
Fall 2019 [Object-Oriented Programming With Java \(CS 252\)](#) with [Dr. Shafqat A. Shad](#).  
Fall 2018 [Introduction to Computer Science \(CS 150\)](#) with [Dr. Alan K. Zaring](#).

- In all three cases, helped students with homework assignments and assisted professor during classes.

06/2018 – 12/2018 **Web Programmer, [Luther College, ITS - Software Development](#), Decorah, IA.**

- Contributed to new [Norse Hub](#) web system which has successfully replaced [my.luther.edu](#).
- Conducted performance & load testing using JMeter and presented results.
- Created data visualization tool utilizing JavaScript DOM.

## Research Experience

Fall 2019 **Directed research in programming languages with [Dr. Alan K. Zaring](#).**

- Extended CCL language, wrote type-checking rules, made key contributions to type system.

Summer 2019 **Collaborative research on visual persuasion with professor [Richard K. Merritt](#).**

- Trained convolutional neural networks for image recognition using PyTorch.
- Wrote Python scripts for PDF image/text extraction and data cleanup.
- Performed extensive set of both statistical and textual analyses using state-of-the-art algorithms.

Summer 2018 **Collaborative research on unit testing with [Dr. Roman Yasinovskyy](#).**

- 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

2018, 2019 Recipient of Two Luther College Dean's Office Summer Research Awards, [Luther College](#).  
All Semesters Dean's List Recipient, [Luther College](#).  
2017 Selected Start-up ([UnleashAR](#)), TOP 200, [Wolves Summit](#) (Largest Startup Conference in EU).  
2016 Gold Medal for Academic Excellence, [Ministry of Education and Science of Georgia](#).  
2011 – 2016 Five-time Finalist (TOP 30 out of over 3,000 participants), [National Mathematics Olympiad of Georgia](#).