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, Shellscript (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, Jupyter, RStudio, Travis CI, SQLite, Elasticsearch, PyTorch, TensorFlow, nltk, numpy, scipy, networkx, pandas, scikit-learn, OpenCV, OpenCL.

Other Skills: 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 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
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