Fenglie (Finley) Li

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Summary

An aspiring and detail-oriented computer science master's student at Northwestern University, strong at software development and proficient in communication, teamwork, and leadership, with experiences in research and internships in the field of Software Engineering, Web Development, Computer Vision and Machine Learning. Currently seeking a 2023 internship in the Computer Science field and Software Engineering.

- **Programming languages**
  Java, Python, C++, C#, HTML, CSS, JavaScript, Node.JS, React.JS, Vue.JS, SQL, MATLAB
- **Other Skills**
  Clarinet Performance (Advanced), Saxophone and Piano Playing (Intermediate)
- **Publications**
  Faster R-CNN with Generative Adversarial Occlusion Network for Object Detection (ICMLC 2022)

Education

Northwestern University Evanston, IL
Masters of Science in Computer Science Dec. 2023

Washington University in St. Louis St. Louis, MO
Bachelor of Science in Computer Science May 2022
Minor: Mathematics, Music
Cumulative GPA: 3.90/4.00
Honor: Dean's List (6 times), Honorable Mention in the 2019 Friends of Music Concerto Competition

Professional Experience

DoubleVerify | *Software Engineering Intern* Jun. 2022 – Sep. 2022
- Developed a UI for the Programmatic Development Team and configured CI/CD pipeline for deployment to Kubernetes
- Implemented front-end user interfaces in Vue.JS to dynamically fetch, parse and display server information for 100+ company partners
- Overhauled back-end Java API schema to expose 3 additional endpoints, and created handler methods to query and compute service status

AI5YUE Technology | *Software Development Engineer Intern* May 2021 – Aug. 2021
- Participated in the development and deployment of an AI-powered Optical Character Recognition software for TDK Electronics
- Developed back-end processing algorithms in C# to enable automated form processing and data validation on 5000+ commercial invoices
- Designed and implemented responsive front-end user interfaces with React.JS to support form and template uploads

iSoftStone Technology Service | *Software Development Engineer Intern* May 2019 – Jul. 2019
- Improved brand awareness by prototyping and implementing the company's global websites in HTML/CSS and JavaScript
- Built a data acquisition tool in Python to gather and analyze price data from 100+ E-commerce sites for AI training

Washington University in St. Louis | *Tutor for Introduction to Computer Science* Aug. 2021 – Jan. 2022
- Hosted weekly tutoring sessions and assisted 5 students in acquiring better understanding of Java programming concepts
- Answered students' questions about the course materials and upcoming exams

Project Experience

Flashtastic – A React Flashcard | *Individual Project* Oct. 2021 – Dec. 2021
- Built a flashcard web application to help streamline concept learning and memorization
- Constructed responsive user interfaces to support study set creation, editing, saving, and practicing using React.JS and CSS Modules
- Configured back-end functionalities with Firebase API to enable data storing and information retrieval

Personal Health Assistant | *Todd Sproull* Nov. 2019 – Dec. 2021
- Developed a full-stack web-based calorie tracker using the MERN stack (MongoDB, Express.JS, React.JS, and Node.JS)
- Designed an interactive homepage to allow food logs creation, update, and saving using HTML/CSS and React.JS
- Created a robust back end with Express Middleware to handle user inputs, database queries, and automatic caloric calculations

Web Calendar | *Todd Sproull* Oct. 2019 – Nov. 2021
- Developed a full-stack web calendar using HTML/CSS, PHP, JavaScript, and MySQL
- Designed dynamic front-end web pages allowing users to create/edit/delete/share personal or group events
- Built relational databases with MySQL to store user data and configured back-end validation to prevent malicious attacks

Research Experience

Computer Vision and Application to Autonomous Vehicles | *Dr. Erik S. Yan, Dr. Deng* May 2020 – Sep. 2021
- Researched advanced image processing and feature extraction techniques in the context of self-driving vehicles
- Trained and optimized a Keras neural network (Mask R-CNN) to perform detection and evaluation on vehicle camera footages
- Implemented and embedded a Generative Adversarial Occlusion Network in a Faster R-CNN model and improved its mAP score by 6%

Sperm Cell Measurement Optimization | *Prof. Tao Ju* Sept. 2020 – Dec. 2020
- Designed and applied geometric computing algorithms to speed up the measurement of the sperm cells of fruit flies
- Prototyped and implemented algorithms such as Thresholding, Flood-fill and Cell Complex Thinning to fulfill the tasks of image preprocessing and feature extraction on 30+ microscopic images of sperm cell of varying quality
- Delivered a semi-automatic measurement solution in the form of a distributable MATLAB GUI and reduced measuring time by 50%

Extracurricular Activity

Washington University Department of Music | *Solo Clarinetist in Chamber Ensemble* **|** St. Louis, MO Aug. 2019 – Present
- Participated in weekly rehearsals and prepared for end-of-semester recitals
- Led additional weekly practice session and helped 4 groupmates work through difficult passages from assigned repertoires