Alex Liu

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EDUCATION

Purdue University West Lafayette, IN   **GPA: 4.0**
B.S. Computer Science   Expected Graduation: May 2025

PROJECTS

Nighttime Semantic Segmentation | *Python, Data Augmentation, Google Colab, Domain Adaptation*   Jan. 2023
- Created and designed an enhanced instance-level data augmentation based algorithm in Python, published conference research in ACM ICMLSC Proceedings
- Trained a domain adaptation network with augmented Cityscapes and Dark Zurich datasets
- Increased nighttime pedestrian recognition by 4.52% compared to state-of-the-art performance (21.12%–>25.64%)
- Won "Best Oral Presentation" at the International Conference for Machine Learning and Soft Computing 2023

FridgeGPT: Recipe Generator | GitHub | *React, Node.js, Express, JavaScript, OpenAI API*   May 2023
- Full-Stack application that takes leftover ingredients as a natural langauge input and generates recipes
- Configured Node.js and Express backend to create API endpoints while React front-end handles form submit
- Integrated OpenAI API to model chat completion responses that route to server API

SpotiFind: Find New Releases | GitHub | *Python, Flask, OAuth 2.0, Spotipy*   July 2023
- Automated Flask application utilizing Spotify Web API to automatically find and compile a playlist of new personalized released songs by parsing artists the user follows
- Enhanced security by using OAuth2 endpoints to authorize and authenticate user's Spotify account

EXPERIENCE

Bit Coding Academy   Aug. 2021 – Present
Co-Founder   *Erie, PA*
- Started a 501(c)(3) non-profit organization that taught free programming lessons to 200+ elementary students
- Created a Scratch curriculum with interactive lessons and projects
- Expanded chapters to OH and NY, recruited and managed a team of 50+ volunteers with weekly collaborations
- Organized activities and weekly after-school lessons for 75+ middle school students

Steel City Codes   Aug. 2020 – May 2023
Regional Director and Curriculum Director   *Erie, PA*
- Hands-on developed a Java Curriculum for the non-profit used by 10,000+ students nationwide
- Hosted a week-long free summer camp workshop for underrepresented students across Northwestern PA

Big Orange   Feb. 2023 - Aug. 2023
Part-Time   *Seattle, WA*
- Sales, accounting, inventory management, and customer service for boba shop

PUBLICATIONS

- Liu, Alex, and Zhifeng Xiao. 'Nighttime Semantic Segmentation with Instance-Level Data Augmentation: A Case Study of the Dark Zurich Benchmark'. Proceedings of the 2023 7th International Conference on Machine Learning and Soft Computing, Association for Computing Machinery, 2023, pp. 175–180, https://doi.org10.1145/3583788.3583814. ICMLSC '23.

TECHNICAL SKILLS

Languages: Python, Java, C/C++, JavaScript, HTML, CSS
Frameworks/Libraries: React, Node.js, Express, MongoDB, Flask
Tools: Bash, Linux, Git, Visual Studio