Songyuan Liu

(470) 896-7505 lsystevee@gmail.com GitHub: https://github.com/ecoist-ste

Education

Georgia Institute of Technology

Junior

- B.S. Computer Science | GPA: 3.86 | Graduation: May 2025
- Threads: Intelligence, Information Internetworks

Experience

Georgia Tech iOS Club App Developer & Officer *Atlanta, Jan 2023-present*

- Building a thought-exchange app called ThoughtBank through SwiftUI and Xcode
- Adopting Firestore database for accessing and storing user data
- Splitting team into different testing units for debugging and improving the app's functionalities
- Meeting weekly with team members for tasks assignment
- Built a movie-tiering-centered social app

MATLAB Optimization for Funding Plan For Florida Wild Plant Conservation Projects *Remote, Nov 2022*

- Dug in quantitative factors & formed objective functions subject to constraints
- Fledged a genetic algorithm-based model to solve the functions by permuting funding plans via simulating natural selection
- Cleansed the data in the financial report of 48 investment projects to feed the algorithm
- Wrote a technical report to the Board about the economic costs and returns of the model
- Our model allows the plan to raise $2,107,285 funds every year and see profits growing by 600% starting the 5th year
- Technical report at: https://ecoist-ste.github.io/personal-website/pdf/himcm_paper.pdf

Projects

CS 2340 Agile-styled Semester-long 2D Dungeon Crawler Game Buildup *Atlanta, Sep 2023-present*

- superintending the team's Github repository for maintenance and updates aligned with the project timeline
- coded in Android Studio by small increments a time conforming to Agile framework (5 sprints in total)

CS 2110 Computer Organization & Programming Course Projects *Atlanta, March 2023- April 2023*

- Implemented in C the backend of malloc( ), calloc( ), recalloc( ), free( ), Singly linked list
- Investigated working mechanisms behind Game Boy Advance (GBA)
- Simulated Game Boy Advance Mode 3 by C to create an interactive game

Python Intelligent Truck Dispatch System For Kitchen Waste Pickup *Atlanta, June 2021- Jan 2022*

- Led a field study in the distribution of Chongqing neighborhoods' trash cans and in garbage trucks' daily routes
- Designed a route-optimization model in Python
- Reduced CO2 emission by 425 kg per truck per year
- Project website: https://ecoist-ste.github.io/promotion-website/

Skills

Java, Git, Swift & Swift UI, Python, C/C++, Matlab, HTML & CSS (Bootstrap), Docker, Javascript, SQL, Collaboration