Sean Henry Lewis

346-252-9443 | seanhlewis@utexas.edu | Austin, TX, 78712
www.linkedin.com/in/seanhhlewis | www.seanhlewis.me | www.github.com/seanhlewis

EDUCATION
Bachelor of Science, Mathematics
University of Texas at Austin   May 2024 (Expected)
Awards: Fuller Endowed Scholarship, Merner Scholarship, HSF Scholarship

---

WORK EXPERIENCE
University of Texas at Austin - Austin, Texas   August 2022 - Present
Good Systems Smart City Researcher under Dr. Junfeng Jiao
- Lead developer of $100,000 CoA×UT Grant for Multilingual AI-Assisted Emergency Preparedness
- Solo lead and developer of several research projects (ex. OpenCityAI, SmartCityData, etc.)
- Built full-stack interfaces and applications for the Urban Information Lab
- Innovated urban informatic solutions with the forefront of technology: AI, ML, NLP

Aspen Games - Austin, Texas   February 2023 - Present
Lead Developer
- Founded a not-for-profit startup for creating ecocentric games
- Developed and launched Patchwork Beast, the startup's flagship game, on Steam
- Presented at UT Austin Digital Demo Day 2023 and EGaDS' GDC² 2024

University of Texas at Austin - Austin, Texas   June 2022 - August 2022
UTCS Program Assistant
- Tutored Swift through Xcode to effectively design and develop apps for iOS
- Taught C++ & PID with Arduino to program a robot to navigate autonomously in the real world
- Trained others in using HTML & JavaScript with Phaser to create deployable web games

---

PROJECTS
OpenCityAI (Python/HTML/CSS/JS, Solo)   January 2023 - Present
- Developed and launched AI chat model on United States open city data
- Utilized PyTorch and Tensorflow to train a large language model on city datasets, optimized for question answering using SQuAD2.0
- Validated against current AI solutions, outperforms Google Bard and Microsoft Bing
- Trained on more than 200,000 datasets from 200+ cities

DataPoweredAI (Python/HTML/CSS/JS, Solo)   January 2023 - Present
- Built GAI system designed to generate personalized AI models for public
- Simplified AI training- just upload data, democratizing AI accessibility

AuditoryAR (Python/HTML/CSS/JS, Solo)   March 2023 - Present
- Built AR application for the hard-of-hearing which displays 3D text near the source of a sound
- Used natural language processing to analyze audio and then geospatially place it

TrafficEMS (Python/HTML/CSS/JS, Solo)   January 2023
- Created framework for scraping open traffic cameras data feeds for ML traffic analysis and GIS to optimize routing of EMS vehicles
- Created GIS routing web app which calculates optimal route with weight-based pathing

SmartCityData (Python/HTML/CSS/JS, Solo)   September 2022 - March 2023
- Centralized city data in an advanced search engine + API, with live updating for each city
- Created easy-to-use automatic in-browser preview system for visualizing data
- Custom-built web querying apps for data, displayed with pandas and Flask

Sean Henry Lewis

346-252-9443 | seanhlewis@utexas.edu | Austin, TX, 78712
www.linkedin.com/in/seanhhlewis | www.seanhlewis.me | www.github.com/seanhlewis

Warehouse Transport (Python/HTML/CSS/JS, Solo)   August 2022 - December 2022
- Created GIS routing web application which calculates and displays CO_2 emission and transport time of delivery trucks versus autonomous delivery robots over any given route
- Made Python API to handle various route, vehicle configurations, optimize distances, throughputs for visual delivery and comparison
- Extended OSRM routing engine, implementing predictions, scalable inputs

Patchwork Beast (GDScript, Team)   January 2023 - Present
- Developed a 2D top-down game about environmental destruction due to industrialization
- Published on Steam, integrated Steam Cloud and achievement support within the game

RPG Wurdle (GDScript, Solo)   May 2022
- Developed and published a mobile game on the Google Play Store & Amazon Appstore
- Implemented custom achievements, database, and Play Games support within the app

Various Websites (HTML/CSS/JS, Solo)   November 2017 - Present
- Constructed various websites using HTML & CSS, deployed using Google Firebase
- Maintainer of OpenCityAI, SmartCityData, Warehouse Transport and other UT affiliated sites

Various Games (Python/C#/GDScript/C++, Solo)   August 2017 - Present
- Full cycle developed various games on Github, Google Play, Amazon, Steam, etc.
- Implemented UI, enemy AI, occlusion culling, procedural generation, navigation, animations, etc.

SKILLS

Green: 5+ Years, Orange: 3+ Years, Red: 1+ Year

JavaScript & TypeScript	Python & Flask/Django	HTML & CSS
English and Spanish Fluency	C# & C++	Java
SQL	Swift	Kotlin

TOOLS

Linux	Git	Godot/Unity/UE4
Visual Studio	Android Studio	Docker
Google Firebase	PyTorch/TensorFlow	Octave

RELEVANT COURSEWORK

Engineering Computation	Software Design	Computer Science
Physics and Mechanics	Multivariable Calculus	Linear Algebra

TALKS AND PUBLICATIONS

"Using Generative AI for Digital Planning" (Preprint)   April 2024
Computers, Environment and Urban Systems

"Digital Planning for Sustainable Urban Future"   January 2024
Utrecht University, Netherlands

"AI-Powered Insights: Extracting Value from Complex Data Ecosystems"   August 2023
Smart Cities and Generative AI Symposium (Texas Advanced Computing Center)

LEADERSHIP EXPERIENCE & ORGANIZATIONS

Eagle Scout   March 2020
- Constructed an animal habitation for the Texas Wildlife Rehabilitation Council
- Led more than a dozen scouts to complete my project

Mental Health Awareness Advisor, Memorial High School   August 2019 - May 2020
- Organized mental health discussions, facilitated awareness and issue advocacy