ARKADY MARCHENKO

US Citizen | arkadym2005@gmail.com | linkedin.com/in/arkadym | arkadymarch.xyz

EDUCATION

The University of Texas at Austin — Austin, TX

Bachelor of Science in Computer Science, Minor in Entrepreneurship | GPA: 4.0 — *Expected May 2026*

- **Related Coursework:** Data Structures in Java, Computer Architecture, Computing in C++, Linear Algebra, Discrete Math, Multivariable Calculus, Probability & Statistics

TECHNICAL SKILLS

Languages & Frameworks: Python, Java, C/C++, JavaScript, React, Node, Express
Web & Database Technologies: HTML/CSS, Tailwind, PostgreSQL
Misc: PyTorch, Git, Linux

EXPERIENCE

Programming Instructor | *AI/ML, Python* — Jun. 2024 – Jul. 2024
iD Tech @ The University of Texas at Austin — *Austin, TX*

- Educated 40 teenage students on **Python, Machine Learning**, and **AI**, resulting in 100% of students successfully completing a personal **ML** project by the end of the course.
- Facilitated hands-on learning of **Python libraries (TensorFlow, NumPy, Pandas, Matplotlib)**, enabling students to successfully manipulate various datasets and create projects.
- Guided students in leveraging the **OpenAI API**, leading to the creation of 40 unique and functional chatbots that were tailored to each student's interests.

Undergraduate Research Assistant | *C/C++* — Nov. 2023 – May 2024
Texas A&M University — *College Station, TX*

- Designed and implemented a hybrid version of Least Significant Digit (LSD) Radix Sort in **C++** that diverts to a family of highly optimized **SIMD** sorting networks.
- Achieved a sorting speed of 130 million keys per second with any size buffer of unsigned 64-bit integers.

PERSONAL PROJECTS

Anime Database Web App | *React, Tailwind, PostgreSQL, Express, Node, Vite*

- Architected a full-stack anime database platform using **React** and **Tailwind**, featuring search filtering and personalized watchlist management for 30,000+ titles.
- Designed and implemented a RESTful API with **Node** and **Express**, handling user queries to a **PostgreSQL** database.
- Integrated **Perplexity API** to auto-generate and cache detailed descriptions for the anime catalog, reducing API costs through efficient caching strategies.

Neural Network From Scratch | *Python*

- Built and trained a neural network on the MNIST dataset to recognize hand drawn digits with 92% accuracy.
- Enabled backpropagation by implementing stochastic gradient descent.
- Utilized **NumPy** to perform various array and **linear algebra** based operations.
- Did not use any machine learning libraries (PyTorch, Tensorflow, etc.).

Japan Travel Planner with NLP | *Python, Flask, JavaScript, Git*

- Collaborated with a team to develop a Japan travel planning website that leveraged the **Perplexity and OpenAI APIs** to create a travel itinerary based on user preferences.
- Connected frontend user input to the **LLMs** using **Flask**, dynamically updating the UI to display the generated itinerary using **JavaScript**.
- Integrated map pins for travel locations, visually presenting user plans on an interactive map using the **ArcGIS API**.
- Built as a part of UT Austin's **HackTX 2024** Hackathon.

Aggie Coding Club — SecuroChat | *Node, Express, PostgreSQL, Git*

- Collaborated with a multifaceted team to develop an end-to-end encrypted iOS/Android text messaging app.
- Implemented controllers to input data from the backend to the **PostgreSQL** database.
- Applied **Agile** and **Scrum** methodologies to organize our work and make progress on our project.
- Resulted in a successful presentation to the Aggie Coding Club.