

Torrey Liu

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TECHNICAL SKILLS

Languages: Java, Python, C++, C, JavaScript, HTML/CSS, LaTeX

Framework & Libraries: React.js, Node.js, Flask, PyGame, JUnit, spaCy, Socket.IO, BeautifulSoup, GeoPandas

Tools & Platforms: Azure Databricks, SQL, Power BI, Git, IntelliJ, PyCharm, Eclipse, Adobe Creative Suite, Microsoft 365

APIs: OpenAI, MiniMax, Slack API, Discord.js/py

EXPERIENCE

Data Engineer

May 2025 - Present

Transport Canada, Transportation of Dangerous Goods (TDG Risk)

Ottawa, ON

- Debug and optimize Python and PySpark code in Azure Databricks for a national hydrogen rail risk model, simulating scenarios such as derailments and explosions
- Analyze real-world rail route data with GeoPandas and SQL to support geospatial modeling of hazardous material transportation
- Build and maintain Power BI dashboards and design SharePoint sites to communicate insights and organize cross-department resources

Client Services Representative

Oct 2024 - Mar 2025

Natural Resources Canada (NRCan)

Ottawa, ON

- Worked closely with the IT team to troubleshoot hardware, install equipment, and utilize Excel to document IT assets across the building and office rooms, ensuring accurate inventory tracking and resource management
- Managed and resolved 200+ client requests through the ASSYST ticketing system, ensuring timely solutions and maintaining high levels of client satisfaction
- Installed and configured 100+ Polycom conferencing systems across the building, enhancing team collaboration, communication capabilities, and enabling seamless online connections for virtual meetings, effectively connecting employees from government offices across Canada

Software Engineer Intern

May 2023 - Aug 2023

PCBest Networks

Hybrid

- Implemented chatbots designed for Discord, Slack, and WhatsApp using OpenAI's GPT-3.5-turbo in Python, Flask, and Slack API
- Enhanced conversation exchange through improved response that uses conversation history via the OpenAI API to generate content dynamically and provide a seamless response

PROJECTS

GAIA | *Frontend* | *JavaScript, HTML, CSS, OpenAI API, MiniMax API*

Jan 2023

- Won **Best Use of Generative AI** at **McHacks 12** for innovatively combining AI-driven narratives with real-time text-to-video generation, pushing the boundaries of AI-powered interactive storytelling
- Integrated Hailuo's MiniMax text-to-video API in the backend, enabling real-time cinematic video generation that dynamically visualizes AI-generated story events, improving game immersion
- Designed and developed the frontend using HTML, CSS, and JavaScript, creating a visually immersive UI with pixelated interfaces, smooth transitions, and engaging animations to enhance player experience

WikiChess | *Frontend/Backend* | *JS, HTML, CSS, Figma, Python, spaCy, Flask, Socket.IO, BeautifulSoup* Aug 2024

- At Hack the 6ix, my team and I developed WikiChess, a strategic twist on WikiRacer, blending Wikipedia navigation with chess-like tactics in a turn-based game
- Led frontend development, designing a minimalist, user-friendly interface with HTML, CSS, and JavaScript, featuring dynamic animations, smooth transitions, and real-time updates. Utilized Figma for UI/UX design to ensure an engaging player experience
- The final product was an interactive, visually appealing game that supported complex mechanics, enhanced player engagement, and received positive feedback, contributing to our **Best Game Hack** win at Hack the 6ix

EDUCATION

Carleton University

Bachelor of Science in Computer Science

Ottawa, Ontario

Sept. 2022 - April 2027