Yiyi Xu

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Education

University of Toronto — Faculty of Applied Science and Engineering Toronto, ON, Canada

B.A.Sc. in Engineering Science | Major in Robotics Engineering, Minor in AI *Expected Graduation: April 2027*

- **Activities**: Phi Gamma Delta Fraternity, Intramural Volleyball, UTMUN Director, St George Capital Project Lead
- **Relevant Coursework**: Data Structures & Analysis, Computer Algorithms & Data Structures, Intro to AI, Intro to Learning from Data, Digital & Computer Systems, Microprocessors & Embedded Microcontrollers, Probability & Statistics

Skills

Programming Languages: Python, Java, C, JavaScript, TypeScript, SQL, HTML, CSS
Tools & Technologies: Git, GitHub, Docker, Bash, React, MySQL, LangChain, Ollama, Vercel, Supabase, Pandas, NumPy

Experiences

Bosda International May 2025 – August 2025

AI & Software Engineer Intern | Python, TypeScript, MySQL, React, LangChain *Aurora, ON, Canada*

- Developed a full-stack drawing management system with React.js and Python for organizing ∼500 engineering drawings using AI powered OCR + MySQL, reducing manual data entry by 45% while keeping human-in-the-loop workflow
- Shipped an internal AI agent using LangChain+ Ollama to query a 200+ table Microsoft Access database, enabling natural language SQL generation, schema reasoning, and multi-tool execution for 100K+ row datasets for employee use
- Automated vehicle part fitment scraping using Python + Selenium, cutting compatibility analysis time by 75%
- Built an e-commerce support agent with OpenAI API, reducing support load while backing $1M+ in annual revenue
- Boosted dev velocity 10x by using LLMs for debugging, research, and full-stack scaffolding

PwC (Advisory) June 2024 – August 2024

AI & Data Consulting Intern | PowerPoint, Excel, Python, SQL *Shanghai, China*

- Prototyped an in-house BI software using Python and MySQL, achieving up to 15% reduction in data retrieval time and researching Chinese LLMs (ChatGLM, Baidu, Alibaba, Tencent) to identify the most suitable model for integration
- Designed an AI+Data+CRM-aligned system for Pfizer's proposed migration of ∼200,000 user entries and 20,000+ hospital records, researching CRM, MDM, and Data Lake solutions while ensuring compliance with China's PIPL regulations
- Authored project handoff documents for a data valuation tool designed for datasets exceeding ¥1,000,000 RMB in value

FIRST Robotics Competition Team 610 January 2022 - April 2023

Head of Strategy, Robotics Software Engineer | Java, OOP, GitHub, Excel *Toronto, ON, Canada*

- Won international finalists' award at the FIRST World Championship
- Led a 35+ member team as Head of Strategy, building a robot for the First Robotics Competition (2022-2023)
- Programmed 5 robot subsystems with Java and WPILib, applying Object-Oriented Programming principles to create singleton pattern code for real-time control
- Developed 30+ commands and optimized 8+ autonomous routines by implementing PID control and integrating sensors, utilizing OOP for efficient process handling and decision-making logic within the robot's control framework

Projects

Freshify | *Python, React Native, TypeScript, OpenAI API* March 2025

- Built an AI-powered mobile app projected to reduce household food waste by up to 15%, using GPT-4o image recognition to scan grocery receipts and item photos
- Developed AI backend and scanning system, automating expiration tracking for 1000+ items and generating recipes to save users $300–$1,600/year in groceries

Housing Proximity to Amenities in the US | *Python, ArcGIS, LaTeX* October 2022 - January 2023

- Won 1st place out of 160 teams in a national Big Data Challenge and submitted for publication
- Spearheaded data collection by simple random sampling 163 counties from 1,936 available on OpenAddresses and stratified random sampling 1,630 unique addresses to enable analysis of housing proximity to amenities with educational attainment and demographic relationships
- Co-authored a statistics research paper in LaTeXon the topic and presented to sustainable development experts and government officials