David Chen

416-879-7536 | davyhchen@mail.utoronto.ca | linkedin.com/in/dayuhechen | https://digitalyoshixi.github.io

Technical Skills

Languages: C, C++, Java, Python, PostgreSQL, MySQL, JavaScript, HTML, CSS, x86 Assembly, Lua, Nix, Powershell, Bash
Web Frameworks: Flask, Streamlit, ExpressJS, NextJS, 3JS
Developer Tools: VMWare, Virtualbox, QEMU, Git, Docker, Linux, VS Code, Visual Studio, Vim, AWS
Libraries: ReactJS, pandas, Tensorflow, Beautifulsoup, NetworkX
APIs: Win32API, GTK4

Education

Honours Bachelor of Computer Science Candidate Sep. 2024 – Jun 2029
University of Toronto *Toronto, ON*

CompTIA A+
CompTIA *Aug 2024*

Work Experience

Computer Science Instructor Aug 2022 – Sep 2023
RoboEDU *Toronto, ON*

- Taught Python and C programming fundamentals and conventions to 30+ students, invoking their interests in software design
- Led and instructed a junior robotics team during the engineering process, establishing tests for consistency and stability aswell as code audits
- Created neural-networks and computer vision projects for 5 students with Tensorflow and Sklearn
- Documented robust 100+ page lesson plans on game design in Lua

Automation Engineer Mar. 2023 – Jun 2023
Pathway Communications *Toronto, ON*

- Wrote periodic python scripts deployed on test servers that use subprocesses to monitor and update 100+ firewalls and routers
- Developed automated tools to use for password reset and AP device migration used for production
- Integrated Elastic EDR into the company ecosystem to monitor, defend and analyze behavior on network devices

Extracurricular Roles

Director of Technology CSEC - UofT | *ReactJS, LLVM* Sep 2024 - Present

- Directed and presented workshops in frontend development with ReactJS, explaining the underlying concepts of ReactJS's transpilation and rendering engine
- Currently leading a CSEC LLVM project for developing a Bytecode interpreter and JIT compiler for esoteric language germspeak

Web Scraper Lead C.R.E.A.T.E - UofT | *Python, Flask, Beautifulsoup* Sep 2024 - Present

- Established bi-weekly meetings for outlining project requirements, that allowed for consistent progress among all 8 members
- Led tutorial sessions in creating tag parsing webscrapers, PostgreSQL server setup and AWS deployment

CTF Team Captain BLIGHT BABIES CTF | *Reverse Engineering, Web, Crypto* Dec 2023 - Present

- Organized bi-weekly CTF meetings for 15+ CTF events
- Solved 20+ intermediate level web exploitation and reverse engineering challenges using BlackArch tools
- Wrote a recon reference for reversing ELF binaries that has worked for 10+ challenges
- https://ctftime.org/team/280084

Design Club Executive D@B - Dr Norman Bethune CI | *Linux, 3D Design* Sep 2023 - Jun 2023

- Led 7+ workshops on Linux, game design, 3D printing, woodworking and graphic design
- Organized and established partnerships between Art Club, allowing for several collaborative events, including sticker printing and graphic design workshops
- Developed budgets, allocated resources and prepared future club meetings months in advance

Projects

PhishNet.work | *AWS, ReactJS, NextJS, Twilio. SageMaker* UoftHacks 12 2025

- challenges Twilio API endpoints for outbound and inbound calls to be recieved and serialized for text interpreting
- Deployed server on AWS EC2 and configured firewall rules and webhooks to connect Twilio and Sagemaker
- Setup the transcription to scam detection pipeline by converting muVal audio data into text and then passing it into BERT classificaton for phishing weight
- https://dorahacks.io/buidl/21620

Room.IT | *AWS, ReactJS, NextJS, NodeJS* Hack The Student Life 2024

- Deployed AWS Amplify to monitor and filter application APIs
- Setup NextJS API endpoints for PrismaDB CRUD operations
- https://devpost.com/software/room-it-zjpel6

Data Dam | *React, Flask, Google Maps, Sklearn* CTRL+HACK+DEL 2024

- Curated, sanitized and prepared historical climate data for training in the forest classification ML model for stream intensity
- Measured local temperature, humidity and water-levels with google maps, open-meteo and IWLS APIs
- https://devpost.com/software/data-dam

Scan2Donate | *React, Flask, OpenCV, Tensorflow, PSQL, Openstreetmaps* Hack The Valley 2024

- Trained and fine-tuned a object-detection neural network model for detecting 20+ food items
- Developed the backend APIs used for location-finding and data-base abstraction using Flask and integrated them to the frontend with ReactJS hooks
- Designed a scaleable PostgreSQL database schema with automatic API calls to maintain entries
- https://devpost.com/software/scanforgood

EcoNom-y | *PostgreSQL, Streamlit, Flask, Gemini* Terrahacks 2024

- Created PostgreSQL databases and database abstraction APIs designed to query a large database of recipe data at low latency
- Developed APIs for computer vision and natural language processing results to be rendered naturally for the frontend application
- Workshopped and designed the front-end UI for displaying recipes
- https://devpost.com/software/econom-y

Indigenous Archive | *Java, Jsoup, Processing*

- Developed a fast Java Webscraper that periodically parses Imgur and Pinterest for cultural art
- Designed a sleek and intuitive UI for the application using Processing APIs
- Integrated Internet Archive API layers to archive images
- https://github.com/digitalyoshixi/indigenous-archive-test

Winter Ocean | *Python, Pygame, Git* Bearhacks 2020

- Created a world generation algorithm using random noise for replayability
- Manipulated input vectors to achieve natural and precise character movement
- Final project was praised for being highly addictive
- https://replit.com/@DavidChen98/hackingthon-ioindian-ocean-game