HENRY HU

Entry Level Software Developer

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WORK EXPERIENCE

Toolbx   Sep 2024 – Present (Dec 2024)
Software Engineer (co-op)   [*Node.js, React, GraphQL, PostgreSQL, TypeORM*]   Remote
- Programed software for construction material e-commerce, with heavy contribution to product enhancements, UX experience.
- Wrote **3** GraphQL resolvers, **7** React components, modal rework, refactoring existing code and **unit tests** for all new code.
- Implemented full stack messaging support using **Twilio** to facilitate quotes, orders and payments communication for customers, including thread user assignment, persistent filters with local storage, threads pagination, blocking, marking spam and more.
- Collaborated with Product and Design to integrate **2FA**, requiring DB migrations, working with `optlib` and new UI/UX.

SS&C   May 2024 – Aug 2024
Full Stack Developer (co-op)   [*Spring boot, Angular, PostgreSQL*]   Remote
- Participated in financial asset management software development and **unit testing**, working with an Angular frontend and Spring boot backend. Component work spanned **4** tables, file upload UI and common component reworks.
- Took lead in development of JOLT specs (Apache NiFi), transforming JSONs with list, object shifts using traversing operators. Projection data from **3** endpoints were run through the specs to match schema of downstream external sources.

Infor Global Solutions   Sep 2023 – Dec 2023
Software Developer (co-op)   [*Docker, AWS EKS+ECS, K8s, GitLab CI/CD*]   Remote
- Deployed **cloud microservices** and optimized CI/CD pipelines, reducing test runtimes by **1 hour** as a member of the Platform and Dev Ops team. Done by parallelizing Cucumber tests into separate K8s pods.
- Dockerized runtime images used by GitLab runners with AWS ECS to propogate build artifacts, provide test runtime environments and serve test reports in a **6**-staged pipeline.
- Refactored language localization process into an **automated** tool using AWS Translate for over **20** languages. Leveraging **GitLab pipeline and API** to automate translation, creation of merge-requests and generation of Wildfly DB migrations.

Wonolo Inc.   Jan 2023 – Apr 2023
Full Stack Developer (co-op)   [*Ruby on Rails, React, GraphQL, PostgreSQL, Redis*]   Remote
- Developed features for Rails app serving the temporary staffing industry, including the backend of customer scheduled reports. Achieved by creating **2** DB tables, **8** GraphQL resolvers and **1** CRON job.
- Led development for new web portal visuals using React. Worked with Product and Design to improve UX and introduced over **10** styled common components interacting with GraphQL resolvers, all with **unit tests**.

PointClickCare   Sep 2021 – Dec 2021 / May 2022 – Aug 2022
Software Engineer (co-op)   [*Spring boot, React, Cypress*]   Remote
- Aided in developing React web app to organize prescriptions and pharmacy orders. **Integration tests** wrote with Cypress.
- Worked on a web messaging app using Twilio API in an Azure cloud environment. Learned about **RESTful web MVCs** in Spring Boot, using **DTOs**, and React functional components.
- Wrote logic as well as **unit tests** for controllers, models and frontend components. Maintained **>90%** code coverage.

RELEVANT PROJECTS

Showdown - Mobile   [*Unity, Netcode for GameObjects, Relay, Lobby*]   Nov 2024
- Designed a two-player, rock-paper-scissors-like online game with Unity. Appealing **UI feedback**, **server-sided** state-keeping and client-side **animations** driven by the DOTWEEN asset was prioritized. **Drew 20 sprites** in Krita.
- Implemented **shake detection** and **4 gesture swipes** as proof of mobile integration to enhance gameplay.
- Used the **Google Play Games** plugin for Unity, creating **9** unlockable achievements. In Closed Testing on Google Play Console.

Poker Hands Game - WebGL   [*Unity, Netcode for GameObjects, Relay, Lobby*]   May 2024
- Published multiplayer card game through Unity WebGL, with players taking turns declaring plausible poker hands from all dealt cards. Managed **server-sided** game state, **network communication** using **RPCs** and **card hierarchy** logic driven by **OOP**.
- Utilized Netcode for GameObjects, Relay, Unity Transport and Lobby to connect players to **public** or **private** games.
- Integrated **design patterns** like singleton, factory methods, observer-subject. C# delegates invoked over **15** different game events.
- Animated rotating, translating and scaling **UI** in coroutines using **3** interface implementations, along with tooltips and highlighting.

Image Classification Web App   [*Django, React*]   Aug 2023
- Created Django app to allow users to train any of **4** image recognition neural networks on their own labelled images. Trained models are saved and inference is catered to users' training data. Production deployment used AWS EC2, RDS, S3 and Route 53.

Personal Website and Portfolio   [*React, Next.js*]   Sep 2022
- Used Next.js for a personal website hosted by Vercel, earning a Real Experience Score of **100** and Best Practices score of **95**.

EDUCATION

University of Waterloo   Sep 2020 – Apr 2025
Candidate for Bachelor's of Computer Science with Software Engineering Specialization   3.96 GPA
Relevant courses: OOD, Data Structures, Algorithms, UI, OS, Software Design & Architecture, Software Testing/QA

RESEARCH

Undergraduate Research Assistantship   May 2023 – Aug 2023
Dr. Justin Wan,   University of Waterloo   Deep Learning and Classification, Unsupervised Learning
- Explored unsupervised method to filter undesirable AI generated images that lead to creating a general image classification tool
- Worked with deep learning, feature extraction and classification using **TensorFlow** and **Hugging Face** vision models

LANGAUGES

Programming: Python, Java, C/C++, C#, TypeScript   **Human:** English, DELF B2 French, N1 Level Japanese