

Elena Pan

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EXPERIENCE

SOFTWARE ENGINEERING INTERN, The Energi Simulator | Nov 2020 – Present

- Created a Unity application to render reservoir data in VR by generating meshes for 3D VTK data
- Currently developing a machine learning algorithm to optimize colour transfer functions

ANDROID DEVELOPER, Women Empowerment League | Jul – Sep 2020

- Worked with the CEO to design an open-sourced Android app currently used by all staff and clients, with an appointment booking system, real-time chats, and user management
- Engineered MVVM architecture and databinding with Kotlin and Android Jetpack, integrated with a Firebase backend
- Implemented user anonymity to protect client identities by censoring names

WEB DEVELOPER, DreamCatchers Foundation | Jun – Aug 2020

- Created Wordpress plugin to automate matching seniors with volunteers, reducing operation time by 50%
- Designed an algorithm in PHP to generate pairings based on certain criteria from MySQL database queries

APPLICATION DEVELOPER INTERN, University of Calgary | Jul – Aug 2019

- Developed a Python app to analyze auditory neural data in 3D, which was published in the Journal of Neuroscience Methods
- Leveraged SciPy and NumPy to process matrix and feed data into VTK pipeline to render neuron response

PROJECTS

3D MULTIPLAYER MONOPOLY ↗

- Leveraged Unity to build 3D Monopoly game with client networking integrated using Photon
- Designed data models and implemented C# scripts to direct flow of gameplay

SMART GARDEN ↗

- Created a full-stack Android app built in React Native for automated plant care
- Engineered Node.js REST API with a MongoDB cloud database
- Facilitated serial port communication between the server and Arduino
- Implemented height detection using OpenCV

FITSPIRE | EXERCISE TRACKER ↗

- Published full-stack web app for fitness tracking using MERN
- Designed a Cronjob on the server to send scheduled fitness challenges to users
- Implemented bearer authentication, email verification, and form validation

SKILLS

LANGUAGES: JavaScript • Python • C/C++ • Kotlin • Java • HTML • CSS

TECHNOLOGIES: Node.js • React • MongoDB • Express.js • Flask • Wordpress • Unity • GCP • Firebase

EDUCATION

UNIVERSITY OF WATERLOO, Candidate for Bachelor of Software Engineering (2020 – 2025)