Mapendo Pierre

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Skills | Revit • Rhino3D • Grasshopper • C# • Javascript • Python • Dynamo • Forge • VR/AR • Git

experience

iSPAN — **Princeton, Ontario**
Software Developer - Building Framing Technology — *Jan 2021 - Apr 2021*

- Implemented **advanced BIM workflows** using **Revit, Forge, and Excel API**s to streamline design
- Led development of a **Revit** plugin to automate cold-formed steel framing and documentation
- Designed an **algorithm** to automate the generation of structural bays from building plan outlines
- Worked closely with senior engineers, steel detailers, and management to ensure project success

Ledcor — **Toronto, Ontario**
Virtual Construction Services (VCS) Coordinator — *Sept 2019 - Dec 2019*

- Led implementation of multi-user **VR** environment to facilitate mock-up reviews in **Unity** and **C#**
- Automated area/volume calculations with **Dynamo** saving estimating team ~5 hours every week
- Recorded on-site **LiDAR scans** and analyzed 3D **point cloud models** for construction accuracy
- 400+ hrs modelling commercial/residential buildings with **Revit** from plans and specifications

Humber College — **Toronto, Ontario**
Instructional Technology Assistant — Full Stack — *Jan 2019 - Apr 2019*

- Single-handedly developed a full-stack **React.js** web app to streamline data collection in 4 weeks
- Created compelling visual reports using **Google API** to inform departmental decisions
- Offered workshops to introduce new classroom technologies to school faculty

projects

Holospace — *Jun 2020*

- Built multi-user **AR** app in Unity and a website with React.js for collaborative 3D mock-up reviews
- Deployed **Node.js REST API** to communicate with **MongoDB**, **AWS S3**, mobile and web clients
- Configured **NGINX reverse proxy** to implement **microservice** architecture and **virtual hosting**
- Secured sensitive API routes using **JWT** authentification, **bcrypt** hashing, and **SSL** certification

Boid Simulation

- Wrote a Grasshopper plugin in **.NET** with **C#** to simulate flocking patterns using boid algorithms
- Sped up run time of simulations by using R-Tree **data structures** to store geometric data
- Developed and debugged program in **Visual Studio** using **Git** for version control

education

University of Waterloo
Architectural Engineering Class of 2023

- 3.75/4.00 cGPA

achievements

2020 *Libgen* Library Design Competition Shortlist
2018 *TimberFever* Build Competition Winner
2018 *Merits* Entrance Scholarship