

# Mapendo Pierre

github.com/mapendopndc

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mapendopndc.io

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

## experience

### iSPAN

Software Developer - Building Framing Technology

Princeton, Ontario

Jan 2021 - Apr 2021

- Led development of a **Revit** addin to automate light-gauge steel modelling and documentation
- Automated 50% of project cost estimation with a custom **.NET REST API** and **Angular** web app that algorithmically **delineates and optimizes structural bays** from architectural floor plans
- Informed AEC professionals of the benefits of **advance BIM workflows** through proposals/demos
- Worked closely with senior engineers, steel detailers, and software developers for project success

### Ledcor

Virtual Construction Services (VCS) Coordinator

Toronto, Ontario

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

Instructional Technology Assistant — Full Stack

Toronto, Ontario

Jan 2019 - Apr 2019

- Single-handedly developed a full-stack **React.js/Firebase** visitor management system, and spear-headed its **departement-wide adoption**, radically improving data quality and fidelity
- Created compelling **analytics dashboards** using **Google API** to inform departmental decisions

## 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** authentication, **bcrypt** hashing, and **SSL** certification

### Boid Simulation

- Wrote a Grasshopper plugin 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

## education

### University of Waterloo

Architectural Engineering Class of 2023

- 3.80/4.00 cGPA

## achievements

2020 *Libgen* Library Design Competition Shortlist

2018 *TimberFever* Build Competition Winner

2018 *Merits* Entrance Scholarship