

## Experience

---

### Software Engineer / Founder, Thalora Ltd [1]

Jan 2024 - Present

- I formed Thalora Ltd through which I continued working with Mainstream Renewable Power (see below) on a consultancy basis.

### Software Engineer / Co-Founder, PowerScope Ltd [2]

Aug 2024 - Apr 2025

- I initially co-founded PowerScope Ltd to create a software tool to empower solar panel installers to assess the investment case for battery storage, & in the process, I grew:
  - A linear optimisation & financial modelling framework, & a battery dispatch model on top of it,
  - A serverless interactive web application to interact with it.

### Web Developer, Mainstream Renewable Power (MRP) [3]

Oct 2021 - Dec 2023

- I fully rebuilt the backend of the MRP data platform, StationManager, to resolve its reliability issues, & in the process, I grew:
  - A high coverage test suite (unit, integration, & end to end) from nil in continuous integration,
  - A simplified system architecture by removing, combining, or replacing its constituent components, which continued to serve the system's user needs above & beyond its original functionality.

### Data Analyst, Codema [4]

Aug 2019 - Oct 2021

- I was tasked with modelling Dublin's built environment (as part of the 🌐 [Dublin Energy Masterplan](#)) to enable estimating the impact of local & regional energy policy decisions on the Dublin energy system. To deliver this, I built a reproducible data wrangling toolkit and energy model (available at 🌐 [codema-dev/projects](#)).

## Education

---

### Master & Bachelor of Mechanical Engineering, Trinity College, Dublin

Sept 2014 - June 2019

- I earned 1st class honours for both degrees, and was awarded a gold medal for my undergraduate results (for averaging over 80 %). In my Master's year I completed a thesis in energy systems, and was one of eight people selected to participate in a yearlong user-centered design project, partnered with the University of Sao Paulo, Brazil, & funded by a corporate sponsor, for which we were picked out as a spotlight project (on 🌐 [sugar-network.org](#)).

## Skills

---

- **Programming Languages:** Python<sup>1,2,3,4</sup>, JavaScript<sup>1,2,3,4</sup>, Nix<sup>1,2,3</sup>, Clojure\*, Smalltalk\*
- **Backend:** Server-Side Rendered HTML (Django, HTMX)<sup>1,3</sup>, REST APIs (Django Rest Framework)<sup>1,3</sup>, Relational Databases (MySQL, Postgres, TimescaleDB)<sup>1,3</sup>, Task Queues (Dramatiq, Redis)<sup>1,3</sup>, GraphQL (AWS AppSync)<sup>2</sup>, Document Stores (AWS DynamoDB)<sup>2</sup>
- **Frontend:** Single Page Applications (React)<sup>2</sup>, CSS (TailwindCSS)<sup>2</sup>, Component Tests (StorybookJS)<sup>2</sup>
- **Good Practice:** Version Control (git)<sup>1,2,3,4</sup>, Code Collaboration (GitHub)<sup>1,2,3,4</sup>, Test-Driven Development (pytest, Selenium, nbdev)<sup>1,2,3,4</sup>, Continuous Integration (GitHub Actions)<sup>1,2,3,4</sup>
- **Infrastructure:** Containerisation (Docker, Nix)<sup>1,2,3,4</sup>, Continuous Deployment (AWS Amplify)<sup>2</sup>, Infrastructure as Code (Terraform, AWS CDK)<sup>2</sup>
- **Data Analysis:** Linear Optimization (bespoke)<sup>2</sup>, Data Wrangling (Pandas)<sup>1,2,3,4</sup>, Workflow Orchestration (Ploomber, Prefect)<sup>4</sup>