

Hazem Fahmi

Research Software Engineer

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Education

Cairo University

B.Eng. in Communications & Computer Engineering

Cairo, Egypt

09/2016 - 06/2021

Publications

P1 Digital Mapping of Public Transportation: the case study of Alexandria, Egypt

Hazem Fahmi, Hend Abdelrazek, Yasmin Kandil

International Conference on Sustainable Urban Mobility Planning, 2023

Experience

Research Software Engineer

Transport for Cairo

01/2024 - Present

- Re-architected TfC's data collection software for informal transit, RouteLab, using CQRS, Event-sourcing and Functional Domain Modeling
- Designed UI/UX for traffic counts data collection workflow in RouteLab Observer mobile app
- Built Monte Carlo simulation script for estimating daily revenue for Chapas drivers in Maputo, Mozambique

GIS Developer

Transport for Cairo

12/2023 - 01/2024

- Developed alpha version of RouteLab Port, a WebGL-based visualization tool for informal transit data
- Maintained RouteLab Observer web dashboard
- Developed a reproducible pipeline for creating an agent-based model for Cairo using open census data
- Introduced Nix for reproducible development environments for data analysis and software projects.

Research Associate / Data Analyst

Transport for Cairo

12/2021 - 01/2023

- Researched and implemented sampling methodology for household surveys in Cairo, Egypt

Skills

Programming Languages: 🐍 Python, 📄 JavaScript / 📘 TypeScript

Tools and Frameworks: Git, Nix, GeoPandas, Polars, Arrow