

ANJUKAN KATHIRGAMANATHAN

PhD, Senior Data Scientist

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EXPERIENCE

Senior Data Scientist

GridBeyond

Feb 2022 - Ongoing

Dublin, Ireland

- Lead data scientist for FoTm Battery Energy Storage Trading Cockpit development for IE and UK Markets
- Development of market simulator for UK market
- Development of bid optimisation engine for FoTm Battery Energy Storage for ERCOT market

Data Scientist

GridBeyond

Feb 2021 - Jan 2022

Dublin, Ireland

- Supported in partnership with Intertrade Ireland Innovation Boost Programme
- Supporting the development of algorithmic trading capabilities
- Development of sizing and dispatch optimisation models for batteries, CHPs, gas peakers
- Developed probabilistic forecasters for wholesale market prices

Stress Engineer

AIMAltitude

Feb 2012 - Nov 2016

Auckland, New Zealand

- Structural substantiation of aircraft interior cabin monuments using FEA and hand calculations.
- Preparing structural substantiation reports for interface loads generation, stress analysis and structural testing.
- Mentoring and leading a team of junior engineers within projects

EDUCATION

PGDip in Business and Management

Queen's University Belfast

Mar 2021 - Mar 2022

Course delivered by the William J Clinton Leadership Institute.

PhD in Engineering

University College Dublin

Jan 2017 - Dec 2020

Thesis title: "Unlocking Energy Flexibility in Commercial Buildings through Data-Driven Techniques"

- Guest lecturer at University of Jaffna for "Society and the Engineer" module
- Currently involved with International Energy Agency (IEA) EBC Annex 81 - Data-driven Smart Buildings

PROUD OF



Guest Speaker on Hypercube Podcast Reinforcement Learning in the Energy Sector



Climate Reality Leadership Corp 2020



World Economic Forum Global Shaper
Member of Dublin Hub



Universitas-21 PhD Travel Award 2019

Allowed exchange in NUS, Singapore



ESIPP PhD Scholarship

Awarded by University College Dublin



Rotary Young Leaders Award (RYLA) 2015



Senior Scholar Award
University of Auckland



Faculty of Engineering Dean's Honours List
2009, 2010 and 2011, University of Auckland



Senior Prize in Mechanical Engineering
2009 and 2010, University of Auckland



Annual Prize for Top Student in Mechanical Engineering
2009, University of Auckland



Faculty of Engineering Undergraduate Scholarship
2009, The University of Auckland



Jubilee Scholarship
2008, The University of Auckland



Dux
2008, Selwyn College, Auckland, New Zealand

EDUCATION (CONT.)

- Was involved with International Energy Agency (IEA) **EBC Annex 67 - Energy Flexible Buildings**
- Ranked 2nd in **CityLearn Challenge** for Reinforcement Learning applied to District Demand Side Management
- Completed Professional Diploma in Data Science (Unofficial)
- Completed **Climate-KIC Journey** Summer School 2019
- Knowledge Transfer (KT) Scouts Initiative 2019 (UCD)
- Participated in InnovationAcademy@ESB Programme

BE(Hons) in Mechanical Engineering

University of Auckland

📅 Jan 2008 – Jan 2012

PUBLICATIONS

👤 Journal Papers (Select)

- Kathirgamanathan, Anjukan, Mattia De Rosa, et al. (2020). "Data-driven Predictive Control for Unlocking Building Energy Flexibility: A Review". In: *Renewable and Sustainable Energy Reviews* 135. January 2021, p. 110120. ISSN: 1364-0321. DOI: [10.1016/j.rser.2020.110120](https://doi.org/10.1016/j.rser.2020.110120). 📄
- Kathirgamanathan, Anjukan, Thibault Péan, et al. (2020). "Towards standardising market-independent indicators for quantifying energy flexibility in buildings". In: *Energy and Buildings* 220, p. 110027. ISSN: 0378-7788. DOI: <https://doi.org/10.1016/j.enbuild.2020.110027>. 📄
- Miller, C. et al. (2020). "The Building Data Genome Project 2, energy meter data from the ASHRAE Great Energy Predictor III competition". In: *Scientific Data* 7.1. ISSN: 20524463. DOI: [10.1038/s41597-020-00712-x](https://doi.org/10.1038/s41597-020-00712-x).

👤 Conference Proceedings (Select)

- Kathirgamanathan, Anjukan, Mattia De Rosa, et al. (2019). "Feature Assessment in Data-driven Models for unlocking Building Energy Flexibility". In: *IBPSA BS 2019. 2-4 September, 2019, Rome, Italy*. Rome. 📄
- Kathirgamanathan, Anjukan, Killian Murphy, et al. (2018). "Aggregation of Energy Flexibility of Commercial Buildings". In: *Proceedings of eSim 2018, the 10th conference of IBPSA-Canada Montréal, QC, Canada, May 9-10, 2018*. Montreal, pp. 173-182. ISBN: 9782921145886. 📄

VOLUNTEER EXPERIENCE

Leadership Network Member

Asia New Zealand Foundation

📅 July 2016 – Ongoing

- Global professional network focused on developing and maintaining strong links between Asia and New Zealand. Attended the following events:
 - **South India Hui** - Part of delegation visiting South India to develop links between New Zealand and India
 - Sustainability Hui

President

Auckland Tamil Sports Club

📅 May 2015 – May 2016

📍 Auckland, New Zealand

- Lead a community sports club of approximately 150 members with the following achievements:
 - Increased family membership by 28% from the previous year
 - Prepared funding proposals for grant agencies and had a 100% success rate receiving over \$17000 for use in community projects and showing accountability for this

STRENGTHS

Machine Learning

Forecasting

Reinforcement Learning

Python - NumPy, Sklearn, Tensorflow

Python - PyTorch, Pandas

Optimisation - LP, MILP, MINLP

Streamlit App Development

Data Engineering

Azure DevOps

Docker

Website Development

Funding/Grant Application Preparation

Event Management

Building Energy Simulation (EP & DB)

LANGUAGES

English



Tamil



French



Python



R



Bash



Git



MATLAB



REFEREES

Assoc Prof. Donal Finn

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@ Sustainability Partner, Vector

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