

David Pratama Widjaja, EIT

RENEWABLE ENERGY ANALYST | SOFTWARE DEVELOPER

✉ widjaja.david@gmail.com | 🏠 david-pw.com | 📱 DavidWidjaja-137 | 🌐 david-pw

Skills

Renewable Energy	NREL SAM, PvSyst, Signal Trending Analysis, Fault & Event Analysis, Load Flow Calculations, pvlib, PyPSA
Analytics & Data Science	Python (Pandas, NumPy, SciPy, Scikit-learn, Matplotlib, etc), PySpark, Tableau
Software Development	Python (Flask, Django, SQLAlchemy), Go, SQL, gRPC, HTML/CSS/JS, VueJS, Plotly Dash
Cloud & DevOps	Amazon Web Services(AWS Certified Developer - Associate), Heroku, Terraform, Linux, Shell, Git, CircleCI

Work Experience

Clir Renewables

Vancouver, BC

Renewable Analytics Software Developer

Apr 2023 - May 2024

- Supported the automation of a time-consuming, weekly internal process into a workflow on AWS Glue, leveraging Terraform Iaas, CircleCI, and Amazon Athena integrations with Tableau Server. Supported reliability improvements in data quality and anomaly identifications in Python and Go.
- Implemented a tool to benchmark performance across Clir's portfolio of solar farms, enabling the company to deliver market insights to clients.
- Implemented an internal tool to analyze, store, and visualize signal trending anomalies and power curve changes across hundreds of wind turbines, allowing analysts to identify and surface issues for clients.

Clir Renewables

Vancouver, BC

Renewable Energy Analyst

June 2022 - Apr 2023

- Significantly improved the internal tooling system for solar analytics processes, by automating repetitive tasks, improving the code efficiency of several batch jobs by an order of magnitude, and generalizing our internal PV models to adequately represent a wide variety of farm configurations. Providing these incremental improvements allowed a rapidly-growing number of urgent and specific client requests to be delivered ahead of formal product releases, while maintaining an agile system for prototyping improvements.
- Designed and implemented several detectors to automatically classify inverter and combiner-level anomalies into discrete IEC conditions, which were accepted as features into the production Clir system.
- Supported the delivery of regular and ad-hoc client requests for analysis and reporting, led several client calls on their asset performance.

Clir Renewables

Vancouver, BC

Renewable Energy Analyst Co-op

May 2021 - Aug 2021

- Developed and tested several anomaly detection and classification algorithms to quantify energy losses in utility-scale solar power plants, leveraging the use of NREL's PySAM and PvSyst models. These algorithms are used to provide rapid updates to clients about the performance of their assets, resulting in improved energy yields and rate of returns.
- Designed and implemented a flexible platform with Python, SQL and AWS infrastructure to accelerate the process of developing new anomaly detection and classification algorithms.

Schneider Electric

Vancouver, BC

Solar Predictive Analytics Design Technician Co-op

Jan 2019 - Apr 2020

- Designed and implemented an interactive data synchronization/document management tool in Python, SQL and various web technologies to accelerate the process of writing and approving safety-critical maintenance guides for utility-scale solar power inverters.

Education

The University of British Columbia

Vancouver, Canada

BaSc in Engineering Physics

2017 - 2022

International Major Entrance Scholarship

Projects

Personal Finance Tracker A Django web app to import, store and visualize transactions from financial institutions.

UBC Solar Car Engineering Design Team Started development of a vehicle environment simulator which analyzes real time solar irradiance, geographic information system (GIS) and weather data to improve racing strategy.

UBC IEEE Power & Energy Society Co-organized the Power & Energy Mixer 2018, a social-networking event bringing together students and industry professionals from prominent energy corporations.

References available upon request.