Emmanuel Decena

Data Scientist — Energy Analyst

www.ecdecena.com

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Mobile : +63-956-924-5530

Address: Cebu City, Philippines

EDUCATION

- **University of Auckland** — Auckland, New Zealand
  Master of Energy; NZAS Scholar; 2:1 Honours — *Feb 2019 – Aug 2020*
  - **Research**: Cluster Analysis of Residential Electricity Use Profiles
  - **Coursework**: Energy Economics, Energy Resources, Energy Technology, Research Methods for Engineers, Computational Introduction to Statistics, Multivariate Analysis, Advanced Data Science Practice, Time Series Analysis, Algorithms for Optimisation

- **University of the Philippines Diliman** — Quezon City, Philippines
  Master of Engineering in Electrical Engineering; Part-time — *Jan 2017 – Dec 2020*
  - **Coursework**: Fault Studies, Computer Methods for Power System Analysis, Power System Planning, Advanced Feedback Control Systems, Linear, Power and Industrial Electronics, Digital Signal Processing, Economic Dispatch Operations, Deep Learning, Machine Learning

- **Nagoya University** — Nagoya, Japan
  Japanese language course — *Oct 2014 – Mar 2015*

- **Cebu Institute of Technology - University** — Cebu City, Philippines
  BSc. Electrical Engineering; Magna Cum Laude Honors — *Jun 2009 – Mar 2014*

EXPERIENCE

- **First Gen Energy Solutions, Inc.** — Cebu City, Philippines
  Dispatch and Planning Engineer — *Oct 2016 - Feb 2019*
  - **Analytics**: Developed process improvement applications that addressed a critical issue resulting in increased revenues; automated billing validations, revenue modelling, and market compliance reporting.
  - **Operations**: Provided electricity market simulations, maintenance scheduling, customer demand forecasting, dispatch projections, load profile analysis, and plant dispatch analysis for power plant operations coordination.
  - **Planning**: Directly reported to the assistance vice-president; generated daily, weekly, monthly and yearly plant capability, consumer demand and revenue forecasts for better maintenance and downtime scheduling.
  - **Marketing**: Assisted the marketing team in prospecting, retail protocols meeting, business chamber committee planning, regional generators, market and transmission operators coordination.

- **Cebu Institute of Technology - University** — Cebu City, Philippines
  Part-time Lecturer — *Jun 2018 - Feb 2019*
  - **Lecture and Laboratory**: Handled ac/dc electrical circuits lecture and programmable logic controller laboratory classes for undergraduate students in civil, electrical, electronics and mechanical engineering.
  - **Advisory Board**: Concurrent appointment as member of the industry advisory board; Attended consultation meetings and provided industry perspectives on the development of the electrical engineering curriculum.

- **Fluor Daniel, Incorporated – Philippines** — Cebu City, Philippines
  Designer — *Jun 2015 - Sep 2016*
  - **Electrical Systems Design**: Developed of low voltage distribution systems, such as: wiring diagrams; junction box, cable, panel, and terminal block schedules; cable tray, grounding, power and control layouts.
  - **Discipline Application Specialist**: Assisted the project automation group as the first line of defence regarding troubleshooting of design application software (SP3D and CAD).

COMPETENCIES

- **Languages**: R, Python, Matlab, SQL, Julia, VBA, Latex, HTML, CSS
  Technologies: Spark, Hadoop, MongoDB, MySQL

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Skills and Services

- **Data Engineering**: Streamlining of data collection and data validation pipelines; auditing of current practices; proposal of process improvements for increased efficiency; building of complete data warehousing systems.
- **Mathematical Modelling**: Design of experiments for statistical analysis; optimal scheduling of processes and resources using operations research; data analysis such as classification, clustering, etc, using machine learning libraries.
- **Business Intelligence**: Provide expert advise on energy markets and electrical engineering concepts to aid in management decision-making; conduct market research to evaluate trends, competitors, and customers.
- **Training and Reports**: Preparation of training materials and lesson plan for technical seminars; development of automated dashboards and scheduled reports for management monitoring.

Personal Projects

- **www.ecdecena.com** R, Python
  Portfolio Website
  - About: Created to demonstrate domain knowledge, technology tools, and lessons learned throughout my career. The goal is to document the systems used and to serve as a personal reference. Built using bookdown and RStudio. Deployed on Netlify. On-going project.

- **https://emi-dashboard.herokuapp.com** Python, dash, plotly
  Electricity Market Dashboard
  - About: A time series forecasting application using fbprophet. Data from the Electricity Market Information website of New Zealand's Electricity Authority. Deployed on Heroku. On-going project.

Awards and Recognitions

- **New Zealand ASEAN Scholarship Award** February 2019
  Ministry of Foreign Affairs and Trade
  - About: The scholarship is awarded to professionals with good academic ability and relevant work experience who show commitment to the social and economic development of their home country.

- **Lopez Achievement Award** October 2018
  Lopez Group of Companies
  - About: Part of the team who successfully implemented the provisions of the Ancillary Services Procurement Agreement of the 48.3 MW Nasulo Geothermal Power Plant which optimized the resource generating capacity and resulted in increased revenues for the year.

- **Spotlight Award** May 2016
  Fluor Daniel, Incorporated - Philippines
  - About: Received the Spotlight Award from Project Management with recommendation from the Lead Engineer during the Sunrise 04-26 Gas Plant Close-out Townhall for being able to deliver good project performance.

- **Fluor Professional Publications and Presentations Program (P4) Author** December 2015
  Cebu Technological University
  - About: Conducted a presentation to electrical engineering students on Variable Frequency Drives (VFDs) during the Engineering Week of Cebu Technological University.

- **Board Exam 6th Place** September 2014
  Professional Regulations Commission
  - About: Ranked 6th out of the 3000+ graduates who took the licensure examination for Registered Electrical Engineers last September 2014.