Sebastian Arboleda

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WORK EXPERIENCE

EverBright | NextEra Energy, Inc.

Senior Software Engineer

- Led team in charge of modeling "without-solar" energy estimates and utility bills.
- Assessed **market expansion** with capital markets and pricing teams through energy storage and financial models, informing state-level entry and exit business decisions.
- Designed and implemented algorithms to improve estimated PV solar generation (ex. inverter loss estimates and storage dispatching optimization).
- Led the migration of our new **3D modeling** and **shade estimation** tool into our main web application. Jul 2023 – Jul 2024

Software Engineer II

- Acted as the **Tech Lead** for the Energy Modeling team.
- Conducted the most technical interviews, helping scale the tech team to over 100 members.
- Worked closely with leaders from different sides of the organization (PMs, pricing, business development, customer support) to help in multiple business initiatives related to energy and utility bill modeling.
- Led our engineering internship recruitment program and managed multiple interns for the Energy Team. All return offers were signed.
- Worked closely with our DevOps team to **migrate the system to k8s**.

Software Engineer I

- Built a user permissions framework to decrease **database load** and query times (CPU usage reached >90% during peak traffic periods) due to our explosive growth, decreasing search loading times by 75% and avoiding high CPU usage alerts.
- Integrated our **Computer Vision** systems into our main design application.
- Designed and developed systems needed to launch our **automated solar design** tool (Django, TensorFlow, React).

• Developed tools to automatically create, design, and quote thousands of solar leads per hour with only an address. Associate Software Engineer Nov 2020 - Jul 2022

- Designed, built, and launched a highly performant microservice to estimate shading losses for each lead created in our platform, decreasing processing times by 80%.
- Set up logging, monitoring, APM, and performance metrics for multiple web services from scratch.
- Authored a research report comparing the hourly accuracy of various solar production estimation tools using data from 700+ live projects. The company used this report to determine which methodology to use and better understand the financial risks associated with these estimates.
- Designed, built, and launched the **company's first microservice**, which contains our in-house PV solar production estimation tool.
- Developed an algorithm to calculate soiling losses based on average days between rainfall events and used real-life hourly data from 1,800+ stations to generate regional estimates to be applied to U.S. rooftop solar projects.

Sighten, Inc. (Acquired by NextEra Energy)

Associate Software Engineer

- Built data models to estimate hourly **categorized electricity usage** for different commercial building types.
- Coded several features to support the company's energy modeling and billing estimation capabilities.

Software Engineering Intern

Jun 2019 – Aug 2019 • Coded a platform feature in **Django** and **AngularJS** that models the charging needs of a client's electric vehicles.

Jun 2018 – Aug 2018

Medellín, Colombia

Jul 2020 – Present

- Built a new platform feature that predicts the hourly energy consumption of several devices and appliances for residencies anywhere in the U.S. by building data models based on 900+ datasets.
- Created multimedia content for both Intersolar North America and Solar Power International conferences.

Organización Cpi3nsa

Member | Think Tank

• Advised and helped perform independent research on energy development, inequality, and sustainability topics in Colombia.

Eastern Nazarene College - in partnership with NASA Ames

Software Engineer - Earthquake Forecasting Researcher

- Developed the entire IoT data pipeline to gather and display data readings from remote sensors.
- Designed and deployed the system's microservices architecture and a CI/CD pipeline.

Quincy, MA

Jun 2018 – Aug 2019

San Francisco, CA Jul 2020 – Nov 2020

New York, NY

Jul 2024 – Present

Jul 2022 – Jul 2023

EDUCATION

EASTERN NAZARENE COLLEGE

B.S. in Electrical Engineering

Quincy, MA

- 2017 Spring 2020 • Relevant Coursework: Computer Programming, Signals and Systems, Embedded Systems, Engineering Design.
- Awards And Honor: President's Scholarship, NECC Academic All-Conference Award (M Soccer), Outstanding Senior Award (Class of 2020).

RESEARCH, PROJECTS, ETC.

World Economic Forum: Colombia Deep Dive	2024
• Supported a research initiative to unlock more investments in clean energy and sustainability in the region	1.
Fakts – Created a real-time AI-powered fake news detection system as part of my senior year thesis.	2019
 Built a system that detects verifiable claims in a document and gathers reliable evidence through a custom engine which is then passed to a stance detection system that tells if such claims are likely true. Primary tech: NumPy, Pandas, Tensorflow, RabbitMQ, MongoDB, Vue.js, NLTK. 	search
ENC Shuttle App – Designed and developed an iOS and Android app for commuter students at ENC.	2020

Along with the IT department, I built a **mobile app** for commuters to track the school's shuttle buses. ٠