Liliana Becerril Tapia

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Professional Profile

Energy Engineer with experience in energy efficiency, electromobility, electrical control systems, data science, and web development. Passionate about optimizing energy systems and developing innovative and sustainable solutions. Specialized in data analysis and modeling to improve energy performance and integrate renewable technologies.

Education

Bs **UPIITA-IPN**, Energy Engineering – Ciudad de México, México Sept 2019 – July 2024
8.47/10
- Energy, energy efficiency, control, automation, power electronics, renewable energies, photovoltaics, systems analysis, energy integration, regulations, and sustaSpecialization in renewable energy, energy efficiency, control, power electronics, energy systems analysis, and sustainability regulations.

Dipl. **IBERO-Puebla**, Electromobility – Puebla, México 16-04-2024
- Analysis of hybrid and electric vehicles, energy efficiency, fossil fuel reduction, and sustainable transportation.

Dipl. **ROMAC**, Diploma in Data Science
- Data analysis, historical data, future predictions, data preprocessing, exploratory data analysis, feature selection, machine learning, regression, classification, time series forecasting, pandas, NumPy, scikit-learn, statsmodels, model evaluation, accuracy, error rates.

Dipl. **Secretaría de Hacienda y Crédito Público**, Financial Education June 2024
- Financial management, risk analysis, budgeting, investment strategies, and decision-making.

Tech. **Cecyt3 - IPN**, Electrical Control Systems – Estado de México, México June 2019
- Electrical circuit design, automation, PLC programming, industrial instrumentation, and control system optimization.

Experience

Intern in engineering, diram – San Pedro Garza Garcia, México Jan 2025 – present
- Power factor analysis and correction through capacitor bank installation, reducing electrical losses by 3%.
- Implementation of energy efficiency strategies in industrial facilities, improving grid stability.
- Development of technical manuals for training new interns, focusing on power electronics to facilitate integration and enhance understanding of internal processes.

Intern in engineering, ENERGYZA – Ciudad de México, México June 2024 – Feb 2025
- Facilitated information management for future interns in inverter monitoring by developing technical manuals, optimizing training processes and knowledge standardization.
- Designed photovoltaic projects using methodologies to optimize panel distribution and minimize shading impact, achieving reductions of up to 2%.

Volunteering

Back-end developer, UCSD/IPN – California, USA Nov 2024 – present

- Developed three microservices focused on optimizing and scaling systems, implementing modular architectures and agile development principles.

Team Member – Rocket and Nanosatellite Project, Hypernova Aerospace – Ciudad de México July 2024

- Contributed to the social media team by sharing team progress and achievements. Worked in the electronics team, focusing on the optimization and development of electronic systems essential for rocket and nanosatellite functionality. Engaged in an innovative, collaborative environment that advanced aerospace technology.

Social services, CINVESTAV – Ciudad de México, México July 2023 – Feb 2024

- Synthesized nanocomposites based on graphene oxide and semiconductors for photocatalysis applications. Evaluated degradation performance of dyes such as Rhodamine 6G (R6G) and Methylene Blue (MB), achieving over 90% degradation with ZnO@GO.

Summer student, INAOE – Puebla, México July 2023

- Participation in the observation and analysis of microwave images for universe studies, applying image processing techniques and astronomical data analysis.

Staff Member, IEEE – Ciudad de México, México Jan 2023 – Dec 2023

- Actively participated in organizing events, conferences, and workshops, enhancing technical and leadership skills. Contributed to projects and competitions, fostering teamwork and problem-solving while networking with professionals and experts. Engaged in RVP and other relevant activities, expanding knowledge in engineering and technology.

Research Assistant, CNMN- IPN – Ciudad de México Aug 2022 – Dec 2022

- Design and simulation of electrode bases using INVENTOR and SOLIDWORKS software, focusing on optimizing structural integrity and functionality through advanced modeling and simulation techniques.

Projects

Synthesis of nanocomposites based on graphene oxide (GO) nanosheets and inorganic semiconductors for applications in photocatalysis – **CINVESTAV and LSDTC** July 2024

Bachelor's thesis

- In my thesis, I conducted experiments with nanomaterials, collecting data to analyze the relationship between material properties and performance. Using statistical and computational methods, I optimized experimental parameters and identified patterns, demonstrating my ability to apply data analysis to experimental research.

Data Analysis of Diabetes Mellitus: Identifying Patterns and Predicting Mortality – **ROMAC** 2024

Diploma of AI

- This analysis aims to identify patterns and relationships between variables related to diabetes mellitus to predict patient mortality. By analyzing historical data, the goal is to understand risk factors influencing health outcomes and make predictions to aid in preventive and intervention strategies

Co-founder of Corre Huevito – **DIET/IPN** 2023

Entrepreneurship Competition

- Developed an application to reduce food waste in small businesses and eateries, connecting surplus food with students at affordable prices.

Tariff Database – **Atingi**

Course "Bases for an energy efficiency project"

- Developed an energy efficiency report as part of the Atingi course, focused on implementing solar panels and improving power factor (PF) in electrical systems. Conducted consumption analysis, photovoltaic system sizing, and recommendations for energy performance optimization.

Skills

Programming Skills: Python (Data Science, Image Processing), SQL, R (Statistical Analysis), Golang (Microservices), JavaScript (Angular), HTML/CSS, React

Design & Simulation Software: PVsyst, Helioscope, AutoCAD, MATLAB, Tableau, Power BI, SolidWorks, Inventor, LibreCAD

Extracurricular Activities

- Biomimetic Robotics Competition (2022) – Designed and built a robot inspired by the movement of an octopus arm.
- Impact Startup Competition (ISC) (2023) – Müllblue project for reducing food waste.
- Development Programs: Digital Woman Program - Junior Achievement | ALURA Latam/Oracle.

Language

1. English (B2)
2. Japanese (N4)
3. German (A2)

Courses

Professional en Data Science: DEV.F

PRE-ACELERATOR-IMPACT BOOTCAMP: Incubadora SCALE / Social Innovation Hub

Fundamentos de la Industria Eléctrica: Udemy

Normatividad en Tecnologías del Hidrogeno: CONUEE

Certificado de análisis de datos de Google: Coursera

Aire acondicionado y edificaciones: atingi

Especializacion en BackEnd: Alura Latam

Sistemas fotovoltaicos: atingi

Iluminación: atingi

Bases para un proyecto de eficiencia energética: atingi

Desarrollo Web: IBM

RStudio: Análisis de datos: Universidad Cooperativa de Colombia

Excel Avanzado: Energyza

Aplicaciones de Ciencia de Datos a la Producción de Hidrógeno: ENERYOU