

SUBHRAJYOTI MAHANTA

+91 6002967278 subhrajyoti.analyst@gmail.com github.com/Subhrajyoti subhrajyotimahanta subhrajyoti.online

EDUCATION

Indian Institute of Engineering Science and Technology, Shibpur, Howrah
Bachelor of Technology, Civil Engineering

Dec 2021 - May 2025
CGPA 7.06

PROJECTS

• Sunlytics – Location Specific Solar Yield Calculator and Financial Modeling Tool for Indian Homeowners: [↗](#)

- Crafted an interactive **web-based tool** enabling homeowners to estimate annual solar **energy yield** at their precise location and receive tailored system recommendations with 10+ financial metrics.
- Integrated **NREL's NSRDB API** to dynamically retrieve location-specific **TMY data** of 8760+ hours and leveraged **PVLib** to simulate annual solar yield using user-provided latitude and longitude inputs.
- Formulated a fully automated financial model that factors in user's monthly energy usage, state-wise solar policies, rising electricity tariffs and government subsidies (PM-Surya Ghar Yojana) to compute payback period, IRR, and net savings and 5+ other metrics.
- Innovated and deployed a scalable backend using **FastAPI** and seamlessly integrated it with a **responsive frontend** to deliver precise actionable insights reducing user research time by 90%.

Tools & Techniques - Python, FastAPI, PVlib, NREL Solar API, Energy Forecasting, Solar Energy Analyst, Pandas, NumPy, Financial Modeling, Render, REST API, JSON, Subhrajyoti.online, AI-generated UI, Git

• GoodCabs Performance Analysis – SQL & Power BI Dashboard : [↗](#)

- Orchestrated an interactive Power BI dashboard to analyze 500,000+ trips, optimizing data visualization for **business insights**.
- Architected a robust **PostgreSQL database** with 7+ tables, ensuring seamless storage and retrieval of operational data.
- Executed SQL queries to track trip trends, revenue patterns, and customer retention reporting **10+ ad-hoc** requests.
- Unearthed revenue gaps, revealing repeat passengers contribute 40%+ more per trip, leading to **strategic recommendations**.

Tools & Techniques - SQL, Power BI, PostgreSQL, Data Analysis, Business Intelligence, Ad-Hoc Reporting, Visualization, BI Tools, Marketing Insight Analytics, Marketing platforms, Data governance, ETL

• Data Analyst Job Market Insights: Trends, Salaries, and Optimal Skills : [↗](#)

- Analyzed **10,000+ job postings** from Luke Barousse's dataset to identify in-demand skills, salary trends, and career opportunities for data analysts.
- Developed 5+ interactive visualizations and dashboards in **Excel (Power Pivot, Power Query)** and Jupyter Notebooks to showcase salary trends and skill demand.
- Orchestrated **interactive reports and visualizations** in Jupyter Notebook, uncovering that SQL appeared in 50%+ of job postings and Python in 72% of Data Scientist roles
- Optimized career insights by identifying high-paying and high-demand skills, revealing Oracle as the top-paying skill (\$97K) and Excel as the most in-demand.

Tools & Techniques - Excel, Power Pivot, Power Query, Jupyter Notebook, Python, Pandas, Seaborn, Matplotlib, Data Visualization, client insights, delivery analytics

WORK EXPERIENCE

Summer Research Internship

Mentor: **Dr. AK Maurya**

May 2023 - Jul 2023

Indian Institute of Technology, Guwahati

- Applied LIDAR technology to enhance transportation data collection with 80% accuracy.
- Led a research initiative that boosted traffic flow analysis accuracy by 20%, contributing to improved predictive modeling for electric vehicles.

Research Internship

Mentor: **Dr. Anuj Budhkar**

Jul 2023 - May 2025

IIST

- Developed and deployed LIDAR-based data collection systems collecting over 10gb+ traffic data.
- Analyzed 100+ traffic flow datasets to identify EV-induced traffic anomalies and sustainability trends, supporting policy-driven transportation planning.

Senior Trainer

Organization: **IHFC, IIT Delhi**

Aug 2023 - Jun 2024

Indian Institute of Technology, Delhi

- Conducted 50+ robotics and programming workshops across 10+ colleges NURTURE STEM initiative.
- Organized and led inter-college robotics competitions, driving participation from 100+ students and promoting STEM innovation at the grassroots level.

SKILLS

Programming — SQL, Python • **Data Analysis** — Power BI, Excel, Pandas, NumPy, SciPy, Matplotlib • **Solar Simulation Tools** — PVsyst, PVlib, PVGIS • **Database** — PostgreSQL, SQLite, MySQL • **Web/API/Cloud** — FastAPI, REST API, Azure