Aranya Kundu

 Aranya Kundu | ✉ aranya.kundu.95@gmail.com | ⌨ Aranya Kundu | in Aranya Kundu | 🌐 Web Portfolio

🎔 PROFESSIONAL SUMMARY

Result-oriented Business Analyst with expertise in **software lifecycle management** and **cross-functional collaboration** to design **product roadmaps** and integrate software solutions catering to customer needs. Curated strategies for optimal resource allocation while delivering high-quality work on quick timelines. Collaborated with customer groups to embrace customer problems and create tailored product concepts based on feedback. Focused on leveraging data science and business analytics to drive **data-based decision-making**. Proficient in developing and presenting impactful **business intelligence dashboards** utilizing **machine learning algorithms** and techniques. Passionate about solving complex projects by combining technical literacy, a strategic business vision, and harnessing bleeding edge technologies such as **Big Data Analytics** and **Artificial Intelligence**.

🏭 WORK EXPERIENCE

University of Notre Dame
Notre Dame, IN, United States
Research Assistant
Sep 2022 - May 2023

Project 1: Natural Language Processing
- Researched various **state-of-the-art frameworks** for training big text data analyzing their advantages and disadvantages.
- Implemented the **BERT framework** using **TensorFlow and PyTorch** on **50 gigabytes** of web scraped earnings call data, computing anomaly scores to detect unusual patterns.
- Developed a python module to compute **anomaly scores and prescience** in text scripts, leveraging **cosine similarities**.

Project 2: Current Expected Credit Loss (CECL) - NFT Transactions
- Attained 70% accuracy in Ethereum price forecasting by programming Time Series Models using Python and R.
- Improved decision-making by developing interpolation based systems to convert Ethereum prices to USD and predict **current expected credit loss (CECL)**.
- Generated actionable insights through **exploratory data analysis**, identifying patterns and relationships in 65 different collection performances based on numerous key performance indicators.

NTPC Limited - System Operations & Commercial
New Delhi (DELHI), INDIA
Product Manager
July 2020 - June 2022

- Achieved responsibility of **product manager**, to create analytical bridge from ground up between operations and commercial departments through utilization of **data science** and **business intelligence**.
- **Directed data analytics projects** from concept to launch, to provide **business insights** and improve **decision making** for 70 Giga Watts power plant operations and pricing strategies by analyzing operations and commercial data.
- Devised **product development strategy** by conducting **benchmarking studies**, tracking industry trends, and gaining insights on competitors and international best practices to drive product differentiation.
- Demonstrated **entrepreneurial mindset** by pioneering cross-border energy trade project with neighboring countries, **expanding to newer markets**, revitalizing the company's position as the 2nd largest electricity trader in the country.
- Implemented **A/B Testing**, financial analytics and demand forecasting models to optimize power plant operations, achieving 90% accuracy in tariff determination and profit maximization.
- Spearheaded **business process improvement** by monitoring implementation of robotic process automation (RPA) resulting streamlined operations and enhanced productivity in 3 business areas to meet tight deadlines.
- Mentored a 7-member team, ensuring 24X7 continuous control room operation in a fast-paced environment for seamless energy trade.

Data Analyst
- Deployed a web-based platform integrated with trading API in collaboration with the IT team, enabling 11 B2B customers to access real-time financial, operational, and strategic insights while maintaining **data governance**.
- Optimized fund utilization worth 1 billion INR leveraging **lean methodologies** coupled with **machine learning** and **predictive analytics**, leading to enhanced financial efficiency and resource allocation.
- Mastered strategic objectives by collaborating closely with cross-functional teams, providing strategic guidance and **analytical insights** in the areas of business strategy, **program management** and **newer product initiatives**.
- Defined **value streams** and showcased analytical excellence by designing prototypes of scalable **business intelligence tools** utilizing Python, SQL, R and Tableau.
- Designed excel and VBA based financial models and presentations by analyzing **financial statements** of companies to support top management with **investment decisions** and **execution roadmaps** in new businesses.

🎓 EDUCATION

University of Notre Dame
IN, United States
Master of Science | Business Analytics | GPA: 3.70/4.00
2022 - 2023

NTPC School of Business (mentored by IIM Ahmedabad)
Noida (UP), India
PGDM | Energy Management | GPA: 3.36/4.33
2018 - 2020

Indian Institute of Engineering Science and Technology
Kolkata (WB), India
Bachelor of Technology | Electrical Engineering | GPA: 8.00/10.00
2014 - 2018

💻 Skills & Certifications

Management Skills:	Product Management, Product Development Lifecycle, Service Level Agreements (SLA), A/B Testing, JIRA, Agile Methods, Scrum Principles, Marketing, Positioning, Project Management, Financial Models, Go-to-Market (GTM) Strategies, Client Relations, CI-CD Pipelines
Interpersonal Skills:	Collaboration, Communication, Stakeholder Engagement, Feedback and Quality Assurance, Team Management
Operational Skills:	Total Quality Management (TQM), Kaizen, Six Sigma, Lean Training, Process Optimization, MIS Reporting, SOP Documentation, Troubleshooting, Root Cause Analysis, Value Stream Mapping
Technical Skills:	SQL, Python, R Programming, VBA, HTML, CSS, JavaScript, C/C++
Analytical Skills:	Statistical modeling, Hypothesis testing, Machine learning, Quantitative analytics, Financial modeling, Current Expected Credit Loss (CECL), Feature engineering, Computer vision, NLP, Big data analytics, Database management, Data warehousing, Data integrity and governance
Business Intelligence:	Tableau, Power BI, Advanced Excel, Shiny, Shiny for Python, Streamlit
Python Modules:	TensorFlow, Keras, PyTorch, OpenCV, Pandas, Numpy, Scikit-Learn, Matplotlib
Cloud Environment:	Azure Data Studio, SQL Server, Kubernetes, Looker, GCP, MySQL
Developer Tools:	Jupyter Notebook, Visual Studio Code, R Studio, PyCharm, Azure Data Studio
Certificates:	Google Data Analytics Professional Certification, Six Sigma Green Belt Certificate

⚗ Internships & Projects

Association for Uncrewed Vehicle Systems International | *R, Shiny*   *May 2023*

- Led a transformative Capstone project on addressing the critical business challenge of improving customer retention rates, identifying innovative strategies to enhance loyalty, and drive long-term customer satisfaction.
- Engineered a cutting-edge machine learning system that effectively identifies the key parameters crucial for customer retention.
- Proposed a targeted marketing approach that strategically prioritizes customer retention and acquisition efforts by focusing on optimizing resources, and aligning marketing strategies with high-potential customer segments.

Trifecta Recognition Dashboard | *Streamlit, Python* | *Demo Link*   *March 2023*

- Programmed a multi-page Dashboard based on Python Streamlit module featuring text analysis, image recognition and speech recognition utilizing advanced libraries such as TensorFlow, Keras, Pytorch, and Speech Recognition.
- Integrated a chatbot with the dashboard that enables users to seamlessly perform complex tasks through audio commands.

Energy Generation Forecast App | *R, Shiny* | *Demo Link*   *February 2023*

- Developed and programmed an interactive multi-page user dashboard using Shiny, allowing users to customize parameters and compare the performance of different time series models for accurate predictions of renewable energy generation at any future time.
- Enabled users to draw insights by predicting the time required to achieve any percentage of renewable energy penetration in the United States.

ML based FIFA transfers App | *R, Shiny* | *Demo Link*   *November 2022*

- Leveraged Shiny framework to build the dashboard that compares different machine learning models to compute the over all rating, transfer prices and best playing positions for any soccer player.
- Created an interactive dashboard that allows users to customize parameters and compare performance of the models.

E-commerce trade growth prediction dashboard | *R, Shiny* | *Demo Link*   *October 2022*

- Designed a Shiny based visualization dashboard that uses different basic and advanced machine learning and time series forecasting to predict the profit and sales growth of a global e-commerce superstore.
- Created an engaging and interactive dashboard, featuring multiple visualization options to facilitate user-driven insights.

Quant-based Investment Strategy GUI | *Python, Tkinter* | *Demo Link*   *September 2021*

- Designed a user-friendly Graphical User Interface (GUI) using Tkinter to assess investment strategies tailored to cost-benefit analysis based on portfolio size leveraging sandbox data for S&P global top 500 companies.
- Methods used for evaluating portfolio performance were Equal Weights, Quantitative Value and Quantitative Momentum.

Tkinter based personal chatbot | *Python, Tkinter* | *Demo Link*   *November 2019*

- Designed a personal chatbot that can perform multiple tasks like Google and YouTube Search, time and location of the system and conditionally login to personal social media accounts.
- Utilized Tkinter to create a user-friendly GUI, offering the flexibility to incorporate additional features based on user requirements.

🏆 Achievements

- Rising Star Employee of the year (2021), Star Newcomer of the year (2020) at NTPC Limited.
- Winner at ConSig, an article writing competition organized by IIT Bombay, 2019
- Winner at Insignia, a B-plan competition by XavComSociety at national level at St. Xavier's College, Kolkata, India, 2015
- **Silver Medal** Awarded by Eastern Railway Women's Welfare Centre, India for excellent performance at School leaving exam, 2013