

SURABHI RAJBHANDARI

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EDUCATION

Drexel University

Bachelor of Science in Computer Engineering, Minor in Data Science

Philadelphia, PA

Expected Graduation: June 2025

Constructor University

Bremen, Germany

Study Abroad Program in Computer Science (Fall 2022), Global Scholarships Ambassador

WORK EXPERIENCE

Drexel Wireless Lab, *Machine Learning Engineer*

September 2024 - Present

- Conducted in-depth research on Reconfigurable Intelligent Surface (RIS) for its application in 6G networks
- Developed a Reinforcement Learning-based Deep Q-learning model using Stable-Baselines3 to optimize RIS configuration, achieving 95% accuracy in predicting optimal angles to maximize signal power
- Automated RIS simulations in Wireless InSite and built a Python ETL pipeline to extract and process 2M+ data points into a structured dataset, integrating it into custom RL environment for AI model training
- Presented the results to faculty and peers, highlighting RIS's transformative role in next-gen wireless systems

Wawa Inc, *Data Analyst*

April 2024 - September 2024

- Built ELT pipelines in Snowflake-SQL to automate reconciliation and validation workflows with anomaly detection for 3M+ pricing and sales records across SAP, POS, and eComm systems, ensuring data integrity for legacy migration
- Developed real-time KPI dashboards in Microstrategy to track sales, customer behavior, and performance across 1K+ stores and 2K+ products, enabling hourly insights and benchmark comparisons for data-driven business decisions
- Developed regression models and hypothesis testing in R to analyze competitors' pricing strategies across product categories, identifying regional price elasticity and trends to support Wawa's Geographic Price Zones implementation

Ipipeline, *R&D Developer*

April 2023 - September 2023

- Developed a KNN multi-class text classification model using scikit-learn to auto-extract 20+ data-fields from insurance forms with 85% accuracy, streamlining document processing for iPipeline's iGo platform
- Automated Defect and Delivery quality scoring model via Jira REST APIs, reducing customer-facing defects by 25%
- Built interactive Power BI dashboards with DAX, Power Query, and advanced data modeling to track 10+ KPIs across 15+ SaaS products, enabling 5 teams to identify bottlenecks and accelerate project delivery by 30%

Cencora, *Business Systems Architect*

April 2022 - August 2022

- Collaborated with Stakeholders to gather high-level business requirements, translating them into technical specifications, ensuring alignment for the development of an Azure warehouse management system
- Managed the Agile backlog, creating epics, user stories, and acceptance criteria; actively participated in daily stand-ups, spring planning, and retrospectives to drive iterative progress and ensure timely delivery
- Led end-to-end testing in Azure-DevOps, designing and executing 30+ test cases to ensure high-quality product release.

PROJECTS

Arduino - Smart Car, Drexel University

September 2023 -December 2023

- Built a hand gesture-controlled Arduino car, mapping gyroscope glove tilt to motion with 0.2s response time
- Programmed a smart EV prototype in C++ with obstacle detection, collision avoidance, adaptive speed control using ultrasonic sensor and RFID authentication; Streamed real-time sensor data in MATLAB GUI via serial communication

Office Playground, HackZurich (Top – 15)

September 2022

- Developed a collaborative game using C# and Unity to foster teamwork and workplace safety , incorporating interactive scenarios to familiarize employees with office layouts and emergency protocols
- Designed intuitive UI elements including task checklists, alerts, and visual indicators to ensure immersive experience

SKILLS

- **Programming Languages:** Python, MATLAB, SQL, C,C++, C#, VHDL, R, CSS, HTML
- **Machine Learning Libraries:** Sklearn, TensorFlow, Pytorch, Keras, Stable-Baseline3, Numpy, Pandas, Matplotlib, Seaborn
- **BI Analytics and Databases:** Power BI, MicroStrategy, Tableau, Excel, Qlik, Visio, Oracle, PostgreSQL, MySQL
- **Cloud and Collaboration Tools:** Snowflake, Azure, AWS, Jira, Agile, Confluence, Slack, MS Suite, Github

LEADERSHIP INVOLVEMENT

Study Abroad Scholarships Ambassador, *Drexel Global*

September 2024 – Present

- Promoted study abroad opportunities by organizing and leading info-sessions to enhance global engagement

Hackathon Co-ordinator, *Institute of Electrical and Electronics Engineer*

September 2021 – April 2024

- Organized Drexel's annual hackathon, with over 300 participants, directing the marketing and event committees

Teaching Assistant, *Drexel University*

September 2021 – December 2021

- Facilitated weekly labs and mentored 60 students in hands-on engineering projects in design and data analysis