

TORAL BANERJEE

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EDUCATION

Clark University, Worcester, MA – B.A. in Computer Science with a Minor in Mathematics. **Expected 2027**
Cumulative GPA: 3.78/4.0

Honors/Awards: Dean's List (Fall 2024)

Atupem Award – Granted to one student annually demonstrating exceptional motivation to pursue an impactful summer internship

EXPERIENCES

Research Assistant – Prof. Ron Lin, Clark University, Worcester, MA **Jan'25-Present**

- The research lies in development and application of AI-driven methodologies, particularly large language models and multi-agent systems, especially done for intelligent design across domains such as semiconductors, materials science, and industry-specific problem solving.
- Developing a regression-based predictive model to estimate semiconductor chip performance, leveraging feature importance analysis across 50+ design parameters to improve accuracy
- Authoring a medical policy correspondence on AI regulation and patient safety for submission to Nature

Data Analytics Intern, Reliance BP Mobility Limited, Mumbai, India **Summer'25**

- Customer segmentation initiative across 1,400 fuel retail outlets to personalize loyalty and pricing strategies.
- Conducted K-Means and RFM clustering on 15,000+ customers, collaborated with pricing and loyalty teams, and built visualizations using Matplotlib and Tableau.
- Reduced customer churn by 10% and improved redemption efficiency by 15% through targeted loyalty offers and regional strategy customization.

PROJECTS

DoodlesCare – iOS Wellness App for Dogs **Mar'25-Present**

- A playful and wellness-focused iOS application that's designed to track pet profiles, medical records, and care routines, featuring an integrated AI chatbot for personalized recommendations.
- Designed and developed playful, user-centric interfaces for pet profiles, medical logs, and care routines using Swift and SwiftUI, while integrating an AI-driven chatbot to recommend products, meals, and activities based on pet characteristics.
- Continuously improved features through iterative updates informed by beta testing and user feedback, enhancing both user engagement and recommendation accuracy.

Sales Forecasting Model, Worcester, MA **Winter'24**

- Developed a time-series forecasting solution to predict sales trends with seasonal variability using ARIMA and Facebook Prophet models.
- Led model development in Python, focusing on identifying optimal parameters for accurate seasonality and trend analysis.
- Improved seasonal forecast accuracy by 18%, leading to better marketing decisions for the users.

Interactive Tableau Dashboard – Udaan Foundation, Mumbai, India **Aug'24-Nov'24**

- Built an interactive Tableau dashboard to analyze performance data of 100 girls in a coding education program.
- Visualized key performance indicators (KPIs) such as attendance, engagement, and completion rates.
- Advised on curriculum redesign and regional delivery models based on KPI insights, enhancing program scalability and increasing retention by 20%

ACTIVITIES

International Student Association: Being part of organizing Clark's biggest international event, The Gala.

Clark's Centre for Technology, Innovation and Entrepreneurship: Participant for various workshops; speaker on internship panel.

SKILLS

Programming & Data Tools: Python (Pandas, NumPy, Matplotlib, Scikit-learn), R, SQL, Java, CSS, JavaScript
System Administration & IT Support: Linux (basic command line, package management), Virtualization (VirtualBox), Bash scripting (basic)
Basic UI/UX: Responsive layout principles, mobile-first design considerations
CMS Platforms: WordPress (familiar with content structuring, updates)
Data Analytics & Modeling: Data wrangling, predictive modeling, clustering, regression analysis, statistical inference, Pattern Finding, Trend Analysis
Insights and Synthesis: Customer, Insights, Insight Summary, Question Writing
Strategic Decision-Making: Forecasting Impact, Trade-Off Testing, Recommendation Framing, Stakeholder Framing
Data Visualization: Tableau, Power BI, Matplotlib, Seaborn
Database Management: MySQL, PostgreSQL
Cloud & Tools: AWS (basic), Git, Jupyter Notebooks, MS Access, Excel, GitHub
Big Data Technologies: Apache Spark
Generative AI: OpenAI APIs
Soft Skills: Analytical thinking, problem-solving, clear communication, team collaboration, confident presenter
Spoken: English (Fluent), Hindi & Bengali (Native), French (Basic)

RELEVANT COURSEWORK

Data Structures (CSCI21), Discrete Structures (CSCI22), Introduction to Python (CSCI120) **Fall'24-Spring'25**
Algorithms (CSCI 160), Automata Theory (CSCI 180), Linear Algebra (Math 130) and Introduction to Analysis (Math 172) **Fall'25**