

# Debo Jyoti Paul

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## EDUCATION

### UNIVERSITY OF WISCONSIN - MADISON

MADISON, WI

#### BACHELOR OF SCIENCE - COMPUTER SCIENCE, DATA SCIENCE (GPA: 3.7/4.0)

MAY 2026

Database Systems, Data Structures, Algorithms, Quantitative Methods, Computer Engineering, UI/UX, Research Statistics, Data Analysis, Artificial Intelligence, BigData Systems, Machine Organization, Computer Programming (OOP), Data Modeling & Visualization, Machine Learning, Deep Learning, Computer Vision, Operating Systems. **Awards:** *MJLSP Hackathon Runner-Up '24; Scholars Award '24*

## WORK EXPERIENCE

### Software Engineer Intern

#### 4P MARKETING CONSULTANCY

Mar 2024 - Aug 2024

- **Automated** data processing to eliminate production bottlenecks. Developed an **algorithm** with **95% accuracy** to process data using Google Vision and Python. Also, proposed an option to **reduce operational costs** by over **50%**
- Designed and built an **Android app** for monitoring and data gathering for over **4,000** daily users with Java and XML
- Created pipelines to **monitor data collection** quality using geofencing, facial recognition, and pixel pattern detection
- Deployed a script to map file directories, re-categorize files, avoid duplicate overwrites, and **generate detailed reports**

### ML Research Asst.

#### DATA ANALYSIS & INTELLIGENT SYSTEMS GROUP

Sep 2023 - May 2024

- Conducted literature reviews, **developed strategies** for meaningful output, and built a lightweight personality detection **model (97% acc.)**, using BERT, Kmeans, an MLP framework and Grid Search from Sklearn
- Identified steps to **reduce errors by 8%** in previous models, built a new model **~200x smaller, and 30% faster**
- Redesigned the pipeline and made the model production-ready using Python

### Technology Intern

#### AMERICAN RED CROSS

Oct 2023 - Jan 2024

- Liaised with **13 senior** and regional managers to revamp the US fundraising **database**, incorporating their **feedback and addressing concerns**
- Developed an internal tracking system for **9,000+ units** and **\$80M in assets** for about 100 regional managers
- Implemented **3+ new features**, **reducing save/load times by 20%** using Python scripts and data processing libraries. Ensured compatibility and accessibility across various devices. Introduced a **standardized data entry guide**
- **Led 2 product creation projects**, created additional visualizations. **Synthesized legal documents**, and worked on mini-projects to further synthesize data, collaborating with **8 senior managers**

## PROJECTS PORTFOLIO - [DEBOJP.GITHUB.IO/PROJECTS](https://debojp.github.io/projects) | GITHUB - [GITHUB.COM/DEBOJP](https://github.com/debojp)

### AI Email Assistant - Dolly (*JavaScript, Python, Flask, Gemini API, Github*)

- Developed an accessible & inclusive **AI-powered email auto-completion** feature using Gemini for personalized, real-time writing suggestions
- Set up a cross-encoder on a **Flask** server to analyze user writing style and context by ranking relevant past emails, collected by using the **Gmail API**
- Utilized **JavaScript** to enable context-aware completions triggered by subject and body message, injected directly to the UI ([Github](#))

### Symptom Based Drug Recommendation Tool (*JavaScript, Python, Tensorflow, BeautifulSoup, MongoDB, Next.js, Github*)

- Scraped clinical figures from over **100,000 pages** using **BeautifulSoup** to build a medicinal database and set it up on an **M0 MongoDB cluster**
- Developed a simple ANN to recommend drugs by inferencing symptoms w/ **Tensorflow**, by aggregating 2 artificial Kaggle datasets
- Designed a **Next** web application w/ **JavaScript** to represent the clinical figures from **MongoDB** in cards and query the ANN model ([Github](#))

### BadgerChat (*JavaScript*) - Created chat app w/ **Wit.ai** & trained **agents** w/ intents & entities to handle user authentication & chat room functionality

### Dynamic Memory Manager (*C*) - Built custom mem. manager w/ err handling to handle heap mem. & fragmentation using best-fit policy & bit flags

### Drug Scheduler (*Java*) - Designed a drug appointment scheduler w/ a DB system in **SQL** on **Microsoft Azure** w/ cred. encryption & input handling

## LEADERSHIP & OTHER AFFILIATIONS

### Artificial Intelligence at UW (Pre-Professional Club), Speaker and Events Manager

Oct 2024 - Present

- Coordinated events with 6 industry experts and organized logistics of campus-wide events, including the Fireside Chat w/ AmFam (90+ attendees) and more

### Student PIRG, Vice-Chair of WA State (WASHPIRG), Events Programming for Affordable Healthcare

Oct 2023 - Jun 2024

- Managed the Student PIRG program chapter in Washington, which connects Seattle and Olympia students with opportunities to lead campaigns, advocate for public interest issues, and collaborate with their community and senators to drive meaningful change through city- and state-wide initiatives

### Husky Robotics, Design Engineer

Sep 2022 - Mar 2023

- Led the design, proposal, and implementation of a rover suspension mechanism in a team of 2; used SolidWorks and Python for mocks & testing; won CIRC '23

### First Year Advisory Council, International Students Rep. Seat

Sep 2021 - Jun 2022

- Implemented strategies to improve operations of various student support programs, orchestrated budgetary allocations for 10+ campus programs

### Sanitas International (Charity), Co-Founder & Operations Officer

Jun 2020 - Aug 2022

- Spearheaded a relief program, delivering aid to 400+ vulnerable families in the community, and extended hygiene awareness to over 2 million individuals

Other Affiliations: **ABC School** (Youth Leader and Mentor), **Code to Connect** (Educator), **Child Rights and You** (Board), **Bengali Student Ass.** (Treasurer)

## SKILLS

**Languages:** Python, Java, JavaScript, JSX, Bash, R, SQL/CQL, C, Assembly, HTML/CSS | **Frameworks:** React, React Native, Flask, Express.js, Hadoop, Spark, Kafka, gRPC | **Developer Tools:** Git, Jira, Docker, MS Azure, GCP, AWS, OCI, OpenAI, Unix/Linux, Android Studio, Blender, SolidWorks, Figma | **Storage:** BigQuery, Cassandra, MongoDB, MySQL, Firebase | **Libraries:** PyTorch, TensorFlow, Keras, scikit-learn, OpenCV, PyArrow, pandas, NumPy, Matplotlib, Beautiful Soup, Selenium