

# AVANTIKA SINGH

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## EDUCATION

**JOHNS HOPKINS UNIVERSITY** | Baltimore, MD | Expected 05/2026 | **GPA: 3.85/4 (Semester 1)**

**Master of Science in Data Science** | **Coursework:** *Self Supervised Models, Machine Translation, Bayesian Statistics, ML for Healthcare*

**UNIVERSITY OF DELHI, LADY SHRI RAM COLLEGE FOR WOMEN** | New Delhi, India | Graduated: May 2022

**Bachelors of Science (Honors Degree), Statistics; Minor: Economics** | **GPA: 9.365/10 (Distinction); 3.96/4**

- **Relevant Coursework:** *Advanced Statistical Theory and Analysis, Mathematical Analysis, Linear Models and Econometrics, Statistical Computing (Python, R, C++, SPSS), Stochastic Processes and Queuing Theory, Biostatistics, Financial Statistics*

## SKILLS

- **Programming:** Python, R, SPSS, C, C++, SQL, Apache Spark, MATLAB, LATEX, STATA, Databricks, CUDA/GPU parallelization
- **Utilities:** TensorFlow, PyTorch, Snowflake, Scikit-Learn, Pandas, NumPy, Sparks, Kafka, Docker, Microsoft Tools, R Shiny
- **Techniques:** EDA, A/B Testing, Regression, Clustering, Classification, PCA, Supervised Learning, Unsupervised Learning
- **Project Management:** Agile Methodologies, SCRUM, Functional Testing, Unit Testing, GitHub, JIRA, AWS, Google BigQuery

## PROFESSIONAL EXPERIENCE

**Graduate Research Assistant** | Johns Hopkins, Carey Business School | Oct 2024 – Present

- Deployed **Apache Spark** and **SQL** to analyze EMR/EHR and SDOH data to measure financial toxicity among late-stage oncology patients; created a dataset of **30000+** patients from **MIMIC IV** to uniquely study sepsis treatment progress
- Optimized biomarker integration using **BioPython**, to assess and implement patient-centred oncology interventions

**Management Consulting Delivery Associate** | Accenture Strategy, Life Sciences | Bangalore, India | Sep 2022 – Aug 2024

- Strategized and implemented advanced features for and tested Accenture's patient platform built on Salesforce CRM
- Expanded platform scope to **4+ clients globally** and worked on **15+ sales proposals** with **90% client conversion rate**
- Engineered analytical models and dashboards using **SQL, Power BI** and **Tableau**, saving **30+ employee hrs./week**
- Built training modules on **leveraging SQL queries for clinical, R&D, EMR/EHR data** etc. boosting project efficiency by **60%**
- Awarded **"Above and Beyond"** quarterly award (Mar 2023 - Jun 2023) and recognition points

**Summer Intern** | Ernst And Young Consulting Services LLP | New Delhi, India | Jun 2021 - Sep 2021

- Computed a growth and price predictive model using **regression analysis** for luxury bikes and OEMs with accuracy of **95%**
- Created a database of sizes, types of agricultural tires across 6+ brands to determine market entry feasibility for a US firm
- Earned a **3-week performance-based extension, letter of appreciation & PPI** after achieving a **60% client success rate**

## KEY PROJECTS

**CliniQure: AI-Driven Diagnostic and Treatment Recommendations for Radiology** | Johns Hopkins University | Nov 2024 – Dec 2024

- Designed a multimodal AI pipeline combining **Faster R-CNN, SE-ResNet, and a cross-modal LLM** to detect abnormalities and generate detailed diagnostic reports from chest X-rays; **BERT score > 0.89**, indicating superior semantic coherence

**Automated SOAP Note Generation** | Johns Hopkins University | Nov 2024 – Dec 2024

- Envisioned a robust ASR and NLP pipeline leveraging **OpenAI's Whisper** and **Medical-NER** to transcribe and structure physician-patient interactions into SOAP (Subjective, Objective, Assessment, Plan) notes
- Achieved **high transcription accuracy (BLEU 0.91)**, using **hybrid lexical and entity-based methods**

**Insight Edge** | Accenture | May 2023 - Aug 2024

- Leveraged **Microsoft Excel VBA** and **Power Apps** to engineer automated workflows for project staffing and BDs
- Developed dashboards for insights such as best performing verticals, clients, projects, and employees on **Power BI**
- Optimized operational efficiency by nearly **67%**, saved **45+ hours** for senior leadership and costs of nearly **\$10000**
- Demonstrated the tool to senior leadership; recognized company-wide; plans to scale the tool to other practice areas

**Testing Data Feminism** | Apr 2021 - Oct 2021

- Analyzed comprehensively concepts of **data feminism and data justice** by studying biases in social media algorithms
- Performed **hypothesis testing** and **k-means clustering algorithms** in R, achieved definitive results for presence of bias
- Published findings in a paper entitled **"Testing Data Feminism in India"** (**SJASS Online (ISSN 2347-5374)**)

## LEADERSHIP EXPERIENCES

- **Treasurer, English Debating Society (2020-2021); President, College Academic Forum (2021-2022);** Secured **\$3000 in sponsorship** for the college's international debating tournament, awarded in 20+ debate; ranked 5th in university trials
- **Top 50 at ZS Prize 2020 (national entrepreneurship challenge)** out of **6000+ teams**, receiving cash prizes and a **PPI**
- **Founder "Covid Aid Resources"**, a social media initiative **with 200k+ followers** for sharing COVID-19 resource leads