





# Snigdha Bose

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## Education

**Northeastern University** | M.S. in Computer Science | 4.0 GPA | *Boston, MA* **Expected May 2025**

- **Courses:** Data Mining, Artificial Intelligence, Natural Language Processing, Cloud Computing, Scalable Services

**SRM Institute of Science and Technology** | B.Tech. in Software Engineering | 3.7 GPA | *Chennai, India* **May 2020**

- **Courses:** Data Structures, Algorithm Design, Discrete Mathematics, Data Science, Big Data, Web Development

## Technical Skills

**Languages:** Java, C/C++, Python, Ruby, Rust, PHP, C#, Golang, Ruby, R, JavaScript, TypeScript, HTML/CSS

**Tools:** Django, Spring Boot, Angular, React, Redux, Node.js, JPA, TensorFlow, PyTorch, Scikit-Learn

**Technologies:** Database (MongoDB, Cassandra, DynamoDB, NoSQL, MySQL/SQL, Postgres), Cloud Infrastructure (AWS, SAS, Terraform, Azure), .NET, Machine Learning, NLP, Big Data (Kafka, Spark, Hive, Hadoop, MapReduce), DevOps, Mobile Development (Android, iOS), Automation tools (Selenium, JUnit, Grafana, Splunk), Operating Systems (Linux, Solaris, Unix)

## Experience

**Intel** | Product Development Engineer Intern | *Hillsboro, OR* **May 2024 – Aug 2024**

- Optimized burn-in testing with 2,000 parameters, **reducing chip validation failure rates by 40%** using logistic regression and a custom end-to-end data processor for feature engineering, parameter optimization, and outlier detection, saving \$1.4 M/year.
- Created a XML-based PList parser with a custom tree structure and recursive descent parser, generating an Abstract Syntax Tree (AST), **reducing manual processing by 8320 hours/year** with a GUI for automation, used by 15+ teams.

**Bank of New York Mellon** | Senior Full Stack Developer | *Pune, India* **July 2020 – August 2023**

- Led the development of new **SWIFT protocols** (MT103, MT202) with Java/XML, **reducing manual effort by 30%**. Designed RESTful APIs and Microservices for transaction validation, enhancing banking transparency.
- Achieved a 95% accuracy rate in **detecting and validating fraudulent alterations** in incumbency certificates using the **Knowledge-Based Reconstruction** ML algorithm, enhancing data security and integrity.
- **Architecture & UX/UI Design** for custom Cash Blotter, with end-to-end development of advanced features to optimize trading strategies, leveraging probability and statistics to improve trade recording efficiency.
- Skills: Java, Javascript, .NET, Oracle, AWS, Kafka, DevOps, Docker, Jenkins, Kubernetes, CI/CD, Agile

**Amazon** | ACMS Software Development Engineer Intern | *Chennai, India* **July 2019 – December 2019**

- Built a **metadata extractor for Kindle** using spaCy, and OAuth for secure API access and user authorization, achieving **88% accuracy** in extracting book details like name, author, and genre, reducing manual intervention in uploads.
- Implemented a scalable AI-driven data ingestion solution, **cutting upload time by 24 hours per book** and projected increase in daily profits by \$7.87 million.

## Projects

- **Hate-Speech Classifier with Sentiment Analysis:** Developed a back-end social media cyberbullying safety tool by classifying tweets based on hate percentage. Utilized SpaCy for advanced feature extraction and preprocessing, and employed an LSTM deep learning model for sentiment analysis, achieving 95% accuracy.
- **GPU-Accelerated Violence Detection System:** Created a Violence Detection model for campus security using YOLOv4 for object detection, CNNs for feature extraction, and LSTMs for video analysis. Leveraged CUDA for GPU acceleration for real-time processing, enhancing responsiveness and increasing threat detection efficiency by 25%.
- **High-Capacity Cyber Risk Detection system:** Developed a classifier for the Defense Research Department(DRDO) by analyzing communication patterns of 7 PB of Ethernet, TCP/IP, and UDP traffic using Wireshark, PyTorch, and NLTK.

## Achievements & Leadership

- **1st prize** at DivHacks Hackathon @ Columbia University SnapAR award presented by **Snapchat** **Oct 2024**
- **Industry-Leading and World-Changing Technology Project Award** recipient @ Intel **Aug 2024**
- **Cohort Lead** for 40 interns @ Intel **May 2024 - Aug 2024**
- **Teaching Assistant** for CS1100: CS and Its Applications with 120 students @ Northeastern **Aug 2023 - Present**
- **HackHer413 2024 @ UMass Amherst hackathon Winner** **Feb 2024**