

# Avijit Roy

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*Blending data, AI, and cybersecurity to build ethical, human-centered technology that informs, protects, and empowers.*

## EDUCATION

John Jay College of Criminal Justice, City University of New York — New York, NY 06/2026

**Master of Science in Digital Forensics & Cybersecurity** | GPA: 3.8/4.0

John Jay College of Criminal Justice, City University of New York — New York, NY 06/2021

**Bachelor of Science in Computer Science & Information Security** | GPA: 3.96/4.0 | **Honors:** Dean's List, Leonard E. Reisman Medal

**Leadership:** Student Government Graduate Rep • VP International Students Association

## SKILLS

**Digital Forensics & Cybersecurity:** Evidence Preservation, Chain of Custody, Autopsy, FTK, Incident Response, Log Analysis, Splunk (SIEM), SOC Analysis, Vulnerability Assessment, Risk Mitigation, Firewall & IDS/IPS, Wireshark, Tshark, Bash, NIST, CIS Benchmarks

**Software & Systems Development:** C++, C#, .NET, SQL, RDBMS, JavaScript, React, Node.js, HTML/CSS, Python, Django, Git

**Data Science, AI & Cloud:** NLP, Machine Learning, Tableau, Data Visualization, R, Responsible AI, AWS, GCP, Excel VBA, Power Automate

## EXPERIENCE

**Adjunct Lecturer | CUNY John Jay College of Criminal Justice** — New York, NY 08/2025 – Present

- Teach Object-Oriented Programming in C++, emphasizing problem-solving, and system-level logic
- Mentor students in code analysis and version control, reinforcing technical rigor and communication

**Data Analyst | The City University of New York** — New York, NY 07/2024 – Present

- Analyze large datasets using SQL and Python to uncover insights, detect anomalies, and inform executive decision-making
- Develop automated dashboards and compliance reports to monitor SEVIS and enrollment data integrity across CUNY campuses
- Document analysis procedures and maintain adherence to data governance standards, ensuring accuracy and accountability

**AI Research Assistant | Research Foundation of The City University of New York** — New York, NY 06/2025 – 08/2025

- Conduct AI and NLP research on automated writing proficiency assessment aligned with ACTFL standards
- Fine-tuned transformer-based models using Hugging Face pipeline and built Gradio interface for explainable and ethical AI analysis

**University Student Records Coordinator | The City University of New York** — New York, NY 06/2023 – 05/2024

- Developed a C#/.NET application to automate cross-file student data comparison across Excel datasets, reducing manual verification time by 30% and generating reliable, audit-ready reports
- Automated validation and reporting workflows using VBS scripts and Excel macros to ensure record accuracy
- Collaborated with Registrars to translate policy rules into data-driven checks and compliance dashboards

**IT Specialist & Data Analyst | The City University of New York** — New York, NY 06/2023 – 05/2024

- Created SQL queries to reconcile and analyze enrollment data for 10,000+ student records across RDBMS platforms
- Conducted data comparisons and predictive trend analyses to identify enrollment patterns and support institutional forecasting
- Designed standardized Tableau and Excel templates, improving reporting efficiency by 80% across 26 campuses

## ACADEMIC AND TECHNICAL PROJECTS

- **Graduate Research Assistant** – Designed a .NET Core backend and React-style admin dashboard for human-trafficking investigations; integrated Google Maps API, SignalR, and Hangfire for real-time reporting and analytics. Implemented OAuth2, RBAC, and encryption-at-rest to secure PII, and built audit-logging for data integrity monitoring.
- **Network Forensics Investigation** – Reconstructed exfiltrated files from PCAP data using Wireshark, Tshark, and HxD; verified integrity via MD5 hashing, simulating corporate data-leak analysis.
- **Data Exfiltration Investigation** – Analyzed forensic images containing 10,000+ files using Autopsy and metadata analysis to trace unauthorized data transfers; correlated registry, email, and activity logs to identify insider data exfiltration.
- **Self-Hosted Secure Messaging Platform** – Developed an encrypted chat system using AES encryption, custom authentication, and access-control logic to demonstrate end-to-end confidentiality.
- **Natural Language Processing (NLP) for Language Proficiency Assessment** – Built and evaluated transformer-based NLP models to automatically classify writing samples by proficiency level, supporting ACTFL-aligned academic evaluation research.
- **Secure Single-Session Authentication System** – Mentored students on implementing concurrency-safe authentication in Django, enforcing OWASP-compliant session management and token security and built an implementation ready product.

## CERTIFICATIONS

Advanced Certificate on Digital Forensics - John Jay College (2025) | Google Cybersecurity Specialization (2024) | Cisco Cybersecurity & Networking Essentials (2024) | EverUp Data Analytics Micro-Credential (2021) | EverUp Cybersecurity Micro-Credential (2021)