Hassan Alfareed

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Education

- **Master's** degree in Data Analytics Engineering **at Northeastern University–Boston** *Dec 2027*
- **Bachelor's** degree in Computer Science **at Rutgers University–New Brunswick** *Jan 2024*
- **Related Courses:** Education & Computer, Software Methodology, Algorithm Design & Analysis, Data Science Intro

- **Technologies:** Django, OpenTelemetry, Google Cloud Console, SQLite, Pandas, Tensorflow, Docker, Git, Github Actions.
- **Languages**: Python, Java. Familiar with: C, Bash, Javascript. HTML, regex.

Work Experience

Software Development Engineer Intern at The City Tutors Inc., New York, NY *April 2024 – Jan 2025*

- Full Stack Development of the City Tutors Portal, a Django-based web app of 4000+ users and 46 partner organizations.
  - ○ Integrated OpenTelemetry with Honeycomb.io for real-time monitoring, reducing system bottleneck detection time by 40% and MTTR by 25%.
  - ○ Released and led development of v2.0 matching algorithm, increasing monthly successful tutor-student pairings by 31% and improving database query efficiency by 35%.
  - ○ Integrated Google OAuth, cutting login friction and reducing sign-in drop-off by 18%, with 34% of users adopting it post-launch.
  - ○ Implemented email verification system with token generation, raising verified sign-ups by 25% and driving an 18% lift in marketing engagement clicks.
  - ○ Debugged and resolved authentication flow issues, reducing login error reports by 60% and improving platform stability for thousands of users.

Projects

- **Geeks4Geeks Scraper RSS Feed** *Dec 2023 – Feb 2024*
  - ○ Developed a Python-based subscription tracker that automated trending article delivery, cutting browsing time by 70% and bypassing ads/pop-ups.
  - ○ Refactored using OOP principles, improving code reusability and reducing maintenance overhead.
- **Urinalysis Test Predictive Modeling with Neural Network** *Oct 2023 – Jan 2024*
  - ○ Built and trained a TensorFlow model for UTI detection, achieving 96.24% accuracy and outperforming baseline methods by 14%.
  - ○ Optimized model robustness by experimenting with multiple optimizers ('adam', 'sgd') and dynamic learning rate schedules, improving validation accuracy by 9%.
  - ○ Presented findings in an online research seminar, communicating methodology and results to 30+ peers and faculty.
- **Automatic Memory Leaks Management** *Sep 2023 – Oct 2023*
  - ○ Engineered a Bash script to mitigate memory leaks in *Escape from Tarkov*, reducing CPU usage by 15% and extending average session length by 20 minutes.
  - ○ Integrated a recovery manager with event-logging to JSON, enabling tracking of 50+ in-game events per session for diagnostics.
- **Twitter Tweet Analysis** *Jul 2023 – Aug 2023*
  - ○ Analyzed crime-related Twitter data by generating bar charts and count plots, uncovering trends by category and time.
  - ○ Applied cross-tabulation techniques to identify significant age- and sex-related crime patterns, later cited in 40+ student research projects.
  - ○ Collaborated with a peer team of 4 to validate findings and cross-check data quality, ensuring reproducibility.