**Email**: mbny30@gmail.com **Weblog**: mpaydar.github.io/myProjectsAndWriteUps. **GitHub**:mpaydar

# Mohammad Bayat

**Objective:** Results-driven Software Engineer and Data Science graduate with expertise in designing scalable data pipelines, cloud-based architectures, and machine learning solutions. Adept at building robust end-to-end systems that transform raw data into actionable insights. Seeking to leverage a strong foundation in full-stack development and advanced analytics to solve real-world problems through data engineering and intelligent automation.

## Education

M.S. - Data Science - CCNY - August 2025 – May 2027
M.S. - Computer Science - NJIT – **Obtained**: August 2025
B.A. - Computer Science- Queens College- **Obtained**: December 2022

## SKILLS

**Languages:** Python, C++, JavaScript, TypeScript, Bash
**Data Engineering:** Apache Spark, Apache Kafka, Airflow, Pandas, NumPy
**Databases:** PostgreSQL, MongoDB, Firebase, Neo4j, Redis, MySQL, SQL/PLSQL
**Cloud Platforms:** AWS (EC2, S3, IAM, Lambda, CloudFormation), Microsoft Azure (Functions, Storage), Firebase
**DevOps & Infrastructure:** Docker, Git, GitHub Actions, CI/CD, Linux, Terraform (basic)
**Backend Development:** Node.js, Express.js, Django, FastAPI, Flask, RESTful APIs, GraphQL
**Frontend Frameworks:** React.js, Next.js, Vue.js, Tailwind CSS, Bootstrap
**ML/AI Frameworks:** TensorFlow, PyTorch, Scikit-learn, XGBoost, Hugging Face Transformers
**Security & Privacy:** OAuth 2.0, JWT, Microsoft SEAL, HTTPS/SSL, Data Encryption Standards
**Tools:** Postman, Jupyter Notebook, VS Code, Tableau, Excel

## Experience

**Infrastructure IT Engineer Intern |** Premium Health | **May 2025 – August 2025**

- Assisted in digitizing infrastructure documentation, maintaining updated logs of hardware, software, and internal workflows across Microsoft 365, Windows, and macOS systems.
- Provided technical support for end users and collaborated with senior engineers to troubleshoot issues and support system upgrades.
- Assisted in reengineering data workflows and automating legacy data migration to digital repositories.

**Data Analyst Assistant |** Stony Brook University **| Sep 2018 – Dec 2018**

- Analyzed large-scale datasets and ensured data integrity through efficient data management processes.
- Collaborated with a cross-functional research team to meet strict data submission deadlines, ensuring timely delivery of high-quality results for ongoing research studies

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# Projects:

### NYC Transportation Data Web Application
**Technologies:** Python, DuckDB, SQL, JSON

- Developed a robust DuckDB schema for the efficient storage and management of a **64 GB** dataset, ensuring high performance and scalability.
- Improved the data scraping script, enabling users to select specific data segments for download, significantly enhancing data retrieval efficiency.
- Leveraged the DuckDB API to develop sophisticated SQL queries for advanced data analysis.

### Smart Encrypted Search Engine
**Technologies:** Microsoft SEAL, C++

- Developed a privacy-preserving search system using Microsoft SEAL and C++, enabling encrypted keyword search with sub-10ms latency across sensitive datasets.

### Yelp & Google Drive Automation Tool
**Technologies:** Yelp API, Google Drive API, JavaScript

- Built a full-stack web application that auto-discovers business data using the Yelp API and archives insights into **Google Drive** for business intelligence and reporting.

# Research Papers

### An Analytical Study and Visualization of Road-Based Shared Transportation Dynamics
**Author/s:** Mohammad Bayat, Adrian Edwards, Ben Giacalone

**Description:** Performed data mining on NYC's Taxi and Limousine Commission datasets to extract insights

and analyze traffic trend

### Data Discovery: Synthesizing Insights for Big Data Analytics
**Author/s:** Mohammad Bayat

**Description:** Explored advanced data discovery techniques in Big Data analytics, synthesizing insight from three pivotal studies at the 2023 VLDB conference.

### Certifications:
AWS Cloud Practitioner
Azure Cloud Practitioner
Azure Cloud Solution Architect
Azure Data Engineer
Machine Learning Specialization – Standford
Deep Learning Specialization – Stanford