

# MD SHOUMIQUE HASAN

✉ shoumique@gmail.com | 📞 +88 01762 000 634  
🐙 github.com/shoumique | 🔗 linkedin.com/in/shoumique

## Skills

**Languages:** Python, Go, PHP, JavaScript, SQL

**Technologies & Tools:** Django, FastAPI, Odoo, AWS, EC2, Lambda, DynamoDB, RDS, S3, GCP, Compute Engine, Google Cloud Storage, Cloud SQL, Docker, Apache, Nginx, PostgreSQL, MySQL, Celery, Redis, Node.js, Express.js, Git, AI, ML

## Work Experience

**BJIT, Dhaka**

**Aug 2021 - Present**

**Senior Software Engineer**

*Jul 2024 - Present*

### DRIVER

- Contributed as a Backend Engineer to the DRIVER project, a World Bank initiative customized for Dhaka Metropolitan Police funded by JICA.
- Successfully automated the transformation and migration of 30 years of road incident data (1990-2020) from an MS-DOS software system into the new platform, ensuring 0% data loss.
- Developed and integrated predictive algorithms to analyze incident data, forecast danger areas, and predict red zone areas, incorporating machine learning techniques into the system.
- Overcame significant challenges in data migration, leading to a seamless transition to the new system and was rewarded with a performance bonus for the exceptional work.
- Django Rest Framework, AWS EC2, AWS RDS, GeoDjango, Docker, Celery, Redis, Angular JS, and RESTful API

### BATTERY MANAGEMENT SYSTEM

- Served as the lead backend engineer for the Battery Management System, ensuring efficient monitoring, optimization, and automation of battery-related operations.
- Refactored the existing codebase to improve maintainability and performance, enhancing API responsiveness and service stability.
- Automated unit testing, increasing test coverage and reliability across multiple services.
- Designed and implemented CI/CD pipelines using AWS CodePipeline and SAM, streamlining
- Technologies: FastAPI, AWS EC2, Lambda, DynamoDB, EventBridge, AWS CDK, AWS SAM, AWS CodePipeline, Docker, Github Actions.

### MEMO2 - SOUND RECOGNITION SYSTEM

- Led the backend development of MEMO2, a cutting-edge sound recognition system designed to detect and analyze sound patterns.
- Designed and implemented a scalable backend infrastructure using AWS services such as EC2, Lambda, and RDS to efficiently process and store sound data.
- Integrated Dejavu and audfprint libraries for sound fingerprinting and recognition, enhancing the system's ability to identify audio patterns accurately.
- Utilized Docker to containerize and deploy services, ensuring a flexible and maintainable architecture.
- Technologies: Django Rest Framework, AWS EC2, Lambda, RDS, Docker, Dejavu Library, audfprint Library.

### ZENRIN MAP - HIGH-PERFORMANCE MAP API

- Led backend development for Zenrin Map, optimizing API efficiency and scalability for high-traffic geospatial services.
- Designed scalable API endpoints to handle high-traffic loads, ensuring smooth and fast map data retrieval.
- Implemented caching mechanisms and database optimizations to reduce latency and enhance user experience.
- Enhanced system stability and fault tolerance, ensuring reliable geospatial data services.
- Technologies: Django Rest Framework, GeoDjango, PostgreSQL (PostGIS), AWS EC2, Redis, Celery, Docker.

### NDBS DATAHUB

- Collaborated with a team to develop a comprehensive automation process for seamless data migration between multiple databases and storage systems using AWS services.
- Contributed to the engineering of Step Functions with AWS Lambda to efficiently read data from Amazon RDS and CSV files, process it, and transfer it to target destinations, including other RDS tables, File System, and S3 buckets.
- Played a key role in implementing a robust system for automating file handling, ensuring that source files are processed, stored, and cleared efficiently, optimizing resource usage and maintaining data integrity.
- Worked with a range of AWS technologies, including EC2, S3, AWS Lambda, AWS Step Functions, Amazon DynamoDB, Amazon RDS, AWS CodePipeline, and GitHub, to create a scalable and reliable solution for the client.

**STARTUP STUDIO**

- Played a crucial role in building one of Japan's largest startup ecosystems, aimed at fostering open innovation by connecting startups with large enterprises, venture capitalists, and other stakeholders.
- Achieved significant performance improvements by profiling and optimization, reducing login and signup times from several seconds to under a second for a large and active user base.
- Led efforts in cloud cost optimization, reducing the client's cloud expenditure by approximately 40% through strategic resource management and optimization.
- Focused on backend and DevOps tasks in a full-stack role, working with technologies such as Django, GCP, Compute Engine, Redis, Celery, Memcached, jQuery, Cloud SQL, Django Debug Toolbar, Silk, and cProfile.

**BJIT ERP (Odoo 16)**

- Customized and enhanced key modules in BJIT ERP (Odoo 16) to improve business processes and financial management.
- Improved accounting reports and introduced new features in the Payroll module, enhancing efficiency and financial accuracy.
- Implemented enhancements and bug fixes in the Attendance module, ensuring seamless tracking and reporting.
- Technologies: Odoo 16, Python, PostgreSQL, Docker.

**BJIT ERP**

- Led and mentored a team in developing modules for Odoo 16 and successfully migrating data from Odoo 11, tackling the challenge of significant structural changes within a tight one-month deadline.
- Developed and optimized Python scripts to efficiently migrate over 350,000 records across four key modules, ensuring data integrity and smooth transition to the new system.
- Successfully managed the complexities of the migration, delivering the project on time and significantly improving the performance and capabilities of the Odoo 16 environment.
- Utilized a variety of technologies, including Python, XML, owl.js, Redmine, and Gerrit, to achieve a seamless migration and module development process.

**Trainee Software Engineer**

Aug 2021 - Oct 2021

**BJIT ACADEMY**

- Joined the team as a fresher and trainee software engineer, focusing on acquiring foundational skills.
- Developed soft skills such as effective communication, team collaboration, problem-solving, and time management and technical skills such as Scrum, Git, Cloud, Software Development Practices, and Software Development Life Cycle (SDLC) through various training programs.

## Education

**East West University, Dhaka**

Mar 2017 - Jun 2021

B.Sc. in Computer Science and Engineering

[Award: Second Highest Distinction] **CGPA: 3.83/4**

Relevant Coursework: Object Oriented Programming, Databases, Discrete Maths, Data Structures and Algorithms, Operating Systems, Computer Networks, Machine Learning, Data Mining, Advance Data Structures and Algorithms, Information Retrieval, Image Processing

## Project Work

- **Bangla Handwritten Character Recognition Enhancement (2021):** Developed a robust system to improve Bangla handwritten character recognition by addressing outliers and class imbalances in the dataset. Proposed and implemented an Autoencoder-based model for outlier detection. Utilized Deep Convolutional Generative Adversarial Networks (DCGAN) to balance class distributions. Trained ResNet-50 classifiers on the cleaned and balanced datasets, achieving 97.95% and 97.92% test accuracy, respectively, compared to 97.63% on the original dataset. Python, TensorFlow, Keras, OpenCV.
- **Designed a Full-Fledged Network (2020):** Engineered a comprehensive network infrastructure for an organization, incorporating multiple subnets to optimize network performance and security. Implemented subnetting to ensure efficient IP address utilization and network segmentation. Configured routing protocols and network devices to support scalable and resilient network operations. Utilized tools like Cisco Packet Tracer and Wireshark for network design and analysis.
- **Prefix & Postfix Calculator (2019):** Developed a calculator application to evaluate mathematical expressions using Prefix and Postfix notation. Implemented algorithms for parsing and evaluating expressions, ensuring accurate and efficient calculations. Designed the user interface for ease of use and integrated error handling to manage invalid input. Technologies used include Python and Tkinter for GUI development.