

# Arafat Hasan

SOFTWARE ENGINEER · CONTINUOUS LEARNER

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“You become what you give your attention to.”

## Summary

I am a software engineer with 4 years of experience building efficient and reliable systems, supported by a strong background in competitive programming with extensive problem-solving expertise. My experience spans backend engineering, DevOps, and machine learning, including work on classification, recommendation, and document review systems. I thrive on tackling complex challenges with clarity, exploring big ideas, and staying curious about everything while pursuing technical excellence with intellectual depth.

## Work Experience

### Dynamic Solution Innovators

Dhaka, Bangladesh

SOFTWARE ENGINEER (CLIENT: CONSILIO LLC, USA – ENVIZE DEVELOPMENT TEAM)

March 2022 – Present

- Contributed to the design and development of Envize, Consilio's large-scale document classification and Technology-Assisted Review (TAR) platform used in enterprise eDiscovery workflows.
- Developed and maintained three core services:
  - Envize Core (Python):** Implemented ML-driven document similarity and classification pipelines using Gensim, NumPy, and SVM models; improved processing throughput for millions of documents.
  - Envity (Java, Spring Boot):** Built middleware integrations between Envize Core and RelativityOne, ensuring reliable, performant API communication at scale.
  - EnvizeNext (Next.js):** Delivered key UI features enabling seamless user interaction and review operations.
- Led performance optimizations across services, reducing latency and strengthening system reliability under high-volume workloads.
- Designed and maintained Jenkins CI/CD pipelines, automated deployments, and improved DevOps workflows for consistent and fault-tolerant releases.
- Participated actively in architecture reviews, long-term system design decisions, and roadmap planning.
- Coordinated effectively across multiple time zones with Consilio's global teams to resolve operational issues, strengthen platform stability, and drive end-to-end system efficiency.

### MATs Inc.

Texas, United States

SOFTWARE ENGINEER, INTERN (REMOTE)

July 2018 – September 2018

- Worked in a four-member engineering team, contributing to data acquisition and automation tasks.
- Contributed to the initial development of a stock market recommendation system, sourcing high-quality financial data from NASDAQ and other market sources via scraping and APIs.
- Built web crawlers and scrapers using Python (Scrapy) and Java Selenium WebDriver to extract structured and unstructured data from diverse sites.
- Performed automated testing using Selenium, validating site functionality.
- Gained hands-on exposure to Jenkins, participating in early CI/CD workflow setup.

## Skills & Technologies

### Programming Languages

Python, Java, Go, C/C++, Bash, SQL

### Frameworks & Libraries

Spring Boot, FastAPI, Flask, Chi (Go), Next.js, Hibernate, Selenium

### Domain Expertise

Large-Scale Document Review & Classification Systems, Recommendation Systems, Information Retrieval

### DevOps & Tooling

Linux, Docker, Jenkins, GitHub Actions, CI/CD, Git, Maven, Vim, Travis CI

### ML & Data Processing

Scikit-Learn, Gensim, NumPy, Pandas, PyTorch, TensorFlow, OpenCV, Matplotlib

### Databases

PostgreSQL, MSSQL, SQLite, MongoDB

### Languages

English (Fluent), Bengali (Native)

## Education

### Mawlana Bhashani Science and Technology University

B.Sc. IN COMPUTER SCIENCE AND ENGINEERING

Tangail, Bangladesh

Jan 2016 – Sep 2021

# Projects

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## auth1

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*Modular Authentication Service*

Go

- Lightweight, production-ready authentication service with a clean layered architecture.
- Implements secure JWT-based access/refresh tokens with robust rotation and validation logic.
- Strong input validation, structured logging (Logrus), and configuration management via Viper.
- Designed for seamless integration across multiple backend services and scalable deployment.

## LexiClass

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*Document Classification Toolkit*

Python

- Production-ready document classification framework with a modular, protocol-based plugin architecture.
- Ships with 11+ built-in plugins (tokenizers, feature extractors, classifiers) and supports easy custom plugin development.
- Supports end-to-end workflows—indexing, training, prediction, evaluation—with both CLI and Python library usage.
- Streaming index builder for large datasets with token caching for high performance and low memory usage.
- Designed for fast prototyping, scalable ML pipelines, and integration into real-world services.

# Problem Solving

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- **Codeforces:** Handle: [arafat\\_hasan](#), Max Rating: 1434, specialist, 300~ problems solved
- **HackerRank:** Username: [arafat\\_hasan](#), C++: *Gold level*, Problem Solving: *Silver level*
- **CodeChef:** Username: [arafat\\_hasan](#), Current 1470, Peak 1552
- **LeetCode:** Username: [arafat\\_hasan](#), 220~ problems solved
- **UVa:** Username: [859424](#), 370~ problems solved
- **Other Platforms:** Occasionally practiced on [AtCoder](#), [SPOJ](#), [LightOJ](#)
- **National Level On-site Contest:** 15+ national inter-university contests (BUET, IUT, JU, MBSTU, others)
- **Intra University Onsite Contest:** 35+ intra-university contests
- **Cumulative Experience:** 1500+ algorithmic problems solved across major online judges
- **Contests Participated:** 300~ online contests participated
- **Training:** BACS KUET Programming Training Camp 2017

# Publications

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## Intelligent waste management system using deep learning with IoT

[10.1016/j.jksuci.2020.08.016](#)

JOURNAL OF KING SAUD UNIVERSITY – COMPUTER AND INFORMATION SCIENCES, 34(5), 2072–2087.

May 2022

- Led core ML and system design work for a research project that integrates deep learning with IoT for smart waste classification and management.
- Proposed a CNN-based model achieving 95.31% accuracy in classifying degradable vs. non-degradable waste.
- Designed a smart trash-bin prototype using IoT sensors (microcontroller + multiple sensors) for real-time monitoring and data communication via Bluetooth.
- Conducted a System Usability Scale (SUS) evaluation, achieving a score of 86, demonstrating high usability.

# Community Involvement

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## Competitive Programming Trainer

COMPETITIVE PROGRAMMING CLUB, CSE, MBSTU

*Tangail, Bangladesh*

March 2019 – Feb 2022

- Conducted regular training sessions on algorithms, data structures, and problem-solving.
- Trained students for ICPC and national competitive programming contests.
- Organized specialized workshops and guided students through structured practice.
- Monitored student progress and provided targeted feedback to improve performance.