

# Md. Mahmudul Hasan Shahin

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## Professional Experience

### **Machine Learning Engineer (Team Lead) | Software Engineer**

Expert Consortium Ltd.

Dhaka, Bangladesh  
July, 2021 – Oct, 2021

- Building Web apps with Django REST API and integrate AI/ML model for Web Apps and AWS.
- Test Code writing for the API to analyze the APP.
- Question Answering, Article Summarization with Fine-Tuned BERT, Fraud Detection. Implementing
- Conversational AI with OpenAI GPT2, Huggingface-Transformers , Microsoft DialoGPT.
- Customize object detection, tracing and anomaly detection with YOLOv4, DeepSort, DeepCounting.

### **Machine Learning Engineer**

Dream Door Soft Ltd.

Dhaka, Bangladesh  
May, 2020 – September , 2020

- We build verify and increase performance of Chat BOT with RASA NLU and spaCy.
- We successfully build new spaCy model for Bangla NLP support which is very first for Bangla NLP.
- Number plate Detection, Face Mask Detection.

## Part-time Experience

- Software Inspector at BETS Consulting Services Limited for GIS software of DPDC.
- Research Assistance at Gaze “2019 AI CITY CHALLENGE, Track 3: Traffic Anomaly Detection” where implement and testing vehicle detection, counting using OpenCV, Detectron2, YOLOv3 with custom dataset, architecture.

## PERSONAL PROJECT

### Group/User/Permission and Authentication (Django)

([heroku](#)) ([github](#)) ([youtube](#))

- This APP is build for giving User permission and Group permission.
- Implement User create, update, User Login, User register, Assign to Group.
- Create , Update , Delete Group , Assign/Revoke permission to the Group.
- Session and Token authentication.
- Swagger and Redoc Documentation for API.

### Google Auth and Chat

(Django)

([heroku](#)) ([github](#)) ([youtube](#))

- By Log-IN with Google you can chat with other people.
- Log-IN with Google using All-Auth.
- Chat with others in personal (ONE-to-ONE).
- Used AsyncWebsocketConsumer, WebSocket, InMemoryChannelLayer (causing not send data in Heroku).
- Swagger Documentation for API.

## E-Commerce Filter

(Django)

([heroku](#)) ([github](#)) ([youtube](#))

- Product filter by Product Category, Product Types.
- Filter by Price range, Delivery Types.
- Pagination, Breadcrumb, Range Slider.
- Swagger and Redoc Documentation for API.
- Working on JWT.

## Chat bot integrate to Discord

(Django) (ML) (NLP)

([github](#))

- Add a Trained Chat Bot agent to Discord chat channel.
- Implement chatbot using nltk, tensorflow.
- Swagger and Redoc Documentation for API.

## In Out People Counting

(ML) (CV)

([github](#)) ([youtube](#))

- You can track and count people by Giving CCTV footage or from Realtime video feed.
- Detect human by YoLo.
- Tracking them using Deep Counting technique.

## Text/News Classification (Bangla)

(ML) (NLP)

([github](#))

- Bangla Text Classification using various Classifier algorithm and Neural Network.
- Profiler to visualize Classification algorithm and comparison with other algorithm.

## GUI/Windows/Mac/Linux Projects

(PyQt5)

- “ERP System” which is now in testing mode in real life. (Desktop GUI) ([link](#))
- “IDE” which can compile and run Python code for competitive programmer . (Desktop GUI) ([link](#)) ([youtube](#))

## RESEARCH Experience

- “Classification of Bangla News Articles Using Bidirectional Long Short Term Memory”
- “NLP Bangla language support for Spacy” Feature : NER, Parser, Tagger.
- “2019 AI CITY CHALLENGE, Track 3: Traffic Anomaly Detection” using Computer Vision Technique.

## Publication

- “Classification of Bangla News Articles Using Bidirectional Long Short Term Memory” Own Dataset.
  - Conference name: IEEE Region 10 Symposium (TENSYP) 2020 (Accepted).
  - Certified as paper presenter and first author.
  - DOI: [10.1109/TENSYP50017.2020.9230737](#)

## TECHNICAL SKILLS

### Framework

- Backend Framework : Django with REST framework and Third-party API integration.
- Frontend Framework : React JS, Django Templates.
- Desktop GUI Framework : Qt / PyQt5.
- Database : SQL, PostgreSQL.
- Version Controlling : Git, Docker.
- Web Scraping / Data mining : Scrapy, BeautifulSoup 4.

## **Machine Learning**

- Language and Library: Python, Tensorflow, Keras, spaCy, Scikit-Learn, PyTorch.
- Algorithm: Supervised, Unsupervised, Reinforcement, Encoder Decoder, Data Visualization, Feature Engineering, Statistical Test, Performance Measure.
- Computer Vision: OpenCV, YoLo-V3, YoLo-V4, Detectron2, Feature extraction.
- Advanced Data Visualization, EDA analysis, Statistical analysis.
- Natural Language Processing: Attention Mechanism, Word2Vec, SpaCy, GPT2, BERT.
- Chat BOT: RASA technology, Meena(Google) , ParlAI (Facebook), DialoGPT(Microsoft).
- Platform: Anaconda, Spyder, Jupyter, Google Colab, AWS.

## **Programming**

- Language: C, C++, Python, C#, Java, JavaScript.
- Algorithm: Number Theory, Graph Theory, Tree, Game Theory, DP , Divide & Conquer.
- Online Platform: UVA, Codeforces.
- User Name: UVA (shahinvx), Codeforces (shahinvx).

## **Awards and Achievements**

- Inter Departmental Programming Contest 4<sup>th</sup> position.
- IEEE Certified as paper presenter “Classification of Bangla News Articles Using Bidirectional LSTM”.
- Applied Data Science with Python (University of Michigan, Coursera) specialization course.
- Applied Social Network Analysis in Python (University of Michigan, Coursera)
- Introduction to Data Science in Python (University of Michigan, Coursera)
- Applied Plotting, Charting & Data Representation in Python (University of Michigan, Coursera)
- Applied Text Mining in Python (University of Michigan, Coursera)
- Applied Machine Learning in Python (University of Michigan, Coursera)

## **Co-Curricular Activities**

- DATATHON:
  - DIU MUJIB Borsho DATATHON 2020 as team Leader (Team Name : ZERO).
- Project:
  - DBMS project name: “Online Banking System” using SQL Server.
  - Software Development Project : “Online Banking System” using PHP, html5, bootstrap.
  - Hardware project name: “Dual Triggering System” using Arduino and SIM-900A.
- Programming contest:
  - Inter Departmental Programming Contest (2018).
  - ACM ICPC preliminary contest (2017, 2018, 2019).
  - NCPC (2018).
- Problem Solving:
  - Codeforces (Handle: shahinvx)
    - Profile: [codeforces.com/profile/shahinvx](https://codeforces.com/profile/shahinvx)
  - UVA Online Judge (Handle: shahinvx)
  - Profile: [uhunt.onlinejudge.org/id/855378](https://uhunt.onlinejudge.org/id/855378)

## Educational

Bachelor of Science in Computer Science & Engineering  
University of Asia Pacific (UAP)  
CGPA 3.55/4.00

Higher Secondary School Certificate in Science  
Adamjee Cantonment College  
G.P.A 5.00/5.00

Secondary School Certificate in Science  
Tamirul Millat Kamil Madrasah (TMKM)  
G.P.A 5.00/5.00

## References

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Former Research Scientist at Gaze technology  
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Dr. Khan Md Anwarus Salam  
Research Director at Dream Door Soft Ltd.  
Former Research Scientist at IBM