

# Taiabur Rahman

Girona, Spain

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## OBJECTIVE

I am looking for a master's thesis position with the goal of improving medical diagnostic systems through creative research in medical imaging esteemed lab.

## EDUCATIONS

**MSc, ERASMUS+ Joint MSc in Medical Imaging & Applications (MAIA)** Sep 2022 -Aug 2024

University of Burgundy-France, University of Cassino- Italy & University of Girona-Spain

**Field of Study:** Medical Sensors, Machine and Deep Learning, Advance Image Analysis, Medical Image Segmentation and Registration, Computer Aided Diagnosis, Computer Aided Surgery and Medical Robotics, E-Health.

**EXCITE Zurich Summer School on Biomedical Imaging** Sep 2023

Swiss Federal Institute of Technology Zurich (ETH Zurich) & University of Zurich, Switzerland

**Field of Study:** Attended lecture series and hands-on practical session on Fluorescence microscopy, Electron microscopy, Super resolution microscopy, pre-clinical animal SPECT/CT imaging and overview of CT and MR image acquisition and post-processing in radiology on biomedical image analysis as well as obtained 4 ECTS.

**MSc, Software Engineering (SE)** Sep 2018 –Aug 2020

Tianjin University, School of Computer Software, China

**Field of Study:** Advance Artificial Intelligence, Matrix Theory, Big Data Algorithm, Sensor and Sensing Technologies.

**BSc, Computer Science & Engineering (CSE)** Oct 2010 -Feb 2014

Bangladesh University (BU), Bangladesh

**Field of Study:** Microprocessor & Assembly, Object Oriented programming language, Database System, Software Engineering, Web Programming, Operating System, System Analysis & Design, Artificial Intelligence.

## PROFESSIONAL TRAINING

**Oracle Certified Professional (OCP)** Nov 2017

IBCS-PRIMAX Software (Bangladesh) Ltd., Bangladesh

**Professional Web Design & Development** Oct 2014

BASIS Institute of Technology & Management (BITM), Bangladesh

## EMPLOYMENT HISTORY & EXPERIENCE

**Assistant IT Manager & Full Stack developer:** Vision Eye Hospital, Bangladesh Dec 2020 -Aug 2022

**Research Assistant:** Tianjin University, School of Computer Software, China Sep 2018 –Jan 2020

**Web Application Developer** Oct 2019 -July 2020

SystemBind Consulting & IT Services Inc. (Remote Job), Canada

**Software Engineer:** Vision Eye Hospital, Bangladesh Oct 2017 -Aug 2018

**Web Application Developer:** Make Good Media. (Remote Job), Canada July 2016 -Jan 2017

**Software Engineer:** Apronix Ltd, Bangladesh Oct 2017 -Aug 2018

**Software Engineer:** Coderment Ltd, Bangladesh Apr 2014 -July 2017

## TECHNICAL SKILLS

**Programing Languages:** Python\*, MATLAB, C++, PHP\*

**Machine learning libraries:** PyQt5\*, SciPy, Scikit-Learn, NumPy\*, Pandas\*, Matplotlib\*, OpenCV\*

**Web Application Tools:** JavaScript, jQuery\*, Vue.js/CLI\*, RESTful API\*, Git\*, Json, XML

**DevOps:** GCP, AWS (EC2\*, RDS, Load Balancing, Auto Scaling, S3\*, CloudFront, Route53\*, and CI/CD CodeDeploy), DigitalOcean\*

**Web Server:** Apache\*, Nginx\*.

**Databases:** SQL, Oracle, MySQL\*, SQLite

\* Proficient

## ACADEMIC PROJECTS

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### **Automated Skin Lesion Classification: A Comprehensive Analysis of Transfer Learning and Machine Learning Techniques** (Group Project) Jun 2023

The classification of skin lesions (benign, melanoma, and seborrheic keratosis) using deep learning models and hybrid models (a combination of pre-trained and machine learning models) was done along with a comparison of the Balanced Multiclass Accuracy (BMA) of each model. The hybrid model, which combines Xception and Random Forest, produced a BMA score of 80%, which was the best.

### **Hard Exudates Segmentation in Retinal Fundus Images** Jun 2023

Morphological segmentation techniques to address the detection of both big and small exudates in retinal images. Our segmentation workflow is designed to perform in parallel, resulting in two distinct files that cater to the specific needs of identifying different exudate sizes. To enhance the accuracy of our analysis, we leverage the power of GLCM, a widely recognized technique for feature extraction. With this approach, we have achieved a 76% accuracy in exudate detection using logistic regression.

### **Alzheimer's Disease Classification Using MRIs and Gene Expression Data** Jun 2023

To categorize Alzheimer's disease (AD), mild cognitive impairment (MCI), and control (CTL), a classification system using feature engineering and machine learning approaches was developed. carried out a comparison analysis of the AUC and MCC scores across different categorization models.

### **Regression Challenge: Using Linear Regression and KNN Model** Jun 2023

Developed a regression algorithm using linear regression and KNN regression and Root Mean Square Error (RMSE).

### **Bibliography Review: Comparative study with Automated Kidney Image Segmentation Based on Traditional & Deep Learning approach.** Sep 2022 -Jan 2023

Studied research articles and prepared a review report on Automated Kidney Image Segmentation Based on Traditional & Deep Learning approaches and observed the advantages and drawbacks of each method.

### **Traffic (signal light) Simulation and Violation Detection** Sep 2022 -Jan 2023

[ Git ] [Python, pyGame]

## INDUSTRIAL PROJECTS

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### **Hospital Information Management System** [ PHP, Laravel, Vue CLI, MySQL, AWS ]

Hospital management system is a web base system that helps manage the information. Up to this point, 5 Ophthalmology Bangladeshi hospitals use this ERP system. They manage the data to all departments of hospital such as prescription, financial, investigation, pharmacy, pathology.

### **Franchise Store Management System** [ PHP, Codeigniter, MySQL, Bootstrap, jQuery, Ajax ]

Control inventory levels across all your locations/stores, warehouses in real-time, so that it can make better purchase decisions & ready for sales at any time. Transfer stock/inventory between stores/warehouse is much easy that can maintain right stock level at each store.

### **B2B Ecommerce system** [ PHP, Laravel, Codeigniter, MySQL, Bootstrap, jQuery, Ajax ]

This type of ecommerce typically involves larger orders and longer sales cycles than B2C (Business-to-Consumer) ecommerce, as the purchases are often made by businesses for resale or to be used in the production of other goods and services.

## LANGUAGE SKILLS

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**Languages:** Bengali- Mother tongue, English – B2

## SCHOLARSHIPS AND AWARDS

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### **Tianjin Government Scholarship**

I received the Tianjin Government Scholarship in 2018, 2019, and 2020 while studying at Tianjin University in China. This scholarship was awarded by the local government of Tianjin, China, to support my studies during those respective years.

## REFERENCES

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### **Eric FAUVET**

Associate Professor & Course Director  
Master in Computer Vision (MAIA-VIBOT program) Le Creusot, Franch  
eric.fauvet@u-bourgogne.fr

### **Mario Molinara**

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