

# ZABIR AL NAZI

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## EDUCATION

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### B.Sc. in Electronics and Communication Engineering

April 2015 - February 2019

Khulna University of Engineering and Technology

CGPA: 3.50 / 4.00

Last Semester GPA: 3.81 / 4.00

**Coursework:** Data Structure and Algorithms, Database Management, Internet Programming, C Programming, Object Oriented Programming with C++, Digital Image Processing, Digital Signal Processing, Artificial Neural Network and Fuzzy Logic, Numerical Methods, Linear Algebra, Probability and Statistics, Multivariable Calculus, Computer Networks.

## WORK EXPERIENCE

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### Tappware Solutions Ltd. – Software Engineer (AI, ML)

March 2019 - Present

· developing data analytics and predictive tools for CAPS-Group, Japan; developing and managing the full Bokshi cloud ecosystem (vision, ocr, speech, ml) for Bangla.

### MazeGeek BD – Intern, Research Assistant I

May 2018 – January 2019

· designed web crawlers, vehicle detection model; major project: Residual Net for Car Detection with spatial transformation (Accepted At ACM ICCA 2020)

### ICT Division, BD – Project Director

December 2018 - Present

· implementing BCI-enabled wheelchair, cloud based patient monitoring system, ML/ Computer Vision assistance.

**Research Internship:** ice9 Interactive (Nov 2017 - Feb 2018)

## SKILLS

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Fields	Algorithms and Data Structures, Computer Vision, Machine Learning, Data Science, Embedded Systems, Biomedical, Robotics
Languages	<b>Python</b> , Matlab, <b>GNU Octave</b> , <b>C++</b> , C, Javascript, PHP, Java, C#, Go, R
Operating System	<b>macOS</b> , <b>Ubuntu</b> , Linux Mint, Raspbian, Cent OS, Windows
Frameworks / Tools	<b>Keras</b> , <b>tensorflow</b> , <b>Flask</b> , <b>scikit-learn</b> , <b>OpenCV</b> , <b>Pandas</b> , <b>Bokeh</b> , <b>Jupyter Notebook</b> , d3, PyTorch, Spyder, CodeBlocks, Unity, SQL, Django, Apache, Docker, Selenium, BeautifulSoup, MongoDB, Tableau, Hadoop, PySpark, Kafka

## SELECTED PUBLICATION

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- Automatic Skin Lesion Segmentation and Melanoma Detection: Transfer Learning approach with U-Net and DCNN-SVM, International Joint Conference on Computational Intelligence 2018 (**IJCCI 2018**), **Springer Book Series: Algorithms for Intelligent System, Book Chapter : 32, Springer** [2018]
- Other Manuscripts and Details: <https://zabir.info/publications.html>

## ACHIEVEMENTS

**Winner, Innovation fund**, ICT Division, Bangladesh Govt. (2018)

· Project BrainNect {Received research grant worth more than **USD \$6000** for developing my proposed research project from ICT Division, BD Govt.}

**ACM International Collegiate Programming Contest**, Dhaka Regional (2015, 2016, 2017)

· <https://icpc.baylor.edu/ICPCID/BIKBO2UHPKON>

**Ignition 2018**: National Mechanical Festival

· **Champion**, Matlab Programming Contest

## PROJECTS

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- Classification of Motor Imagery EEG Signals with Random Subspace Ensemble Network with variable-length feature sampling
- Bangla Newspaper Article Classification with Bidirectional LSTM
- Bokshi Cloud Ecosystem for Bangla NLP, Data Analysis, Vision, and Speech (Bangla OCR, Bangla Text to Speech Synthesis, Medical Symptom Analysis, Bangla Chat Bot, Vision) [Flask RESTful API, Apache, tensorflow, Keras]
- Deep Convolutional Network for Text to Speech Engine (A dc-tts implementation for Bangla Language with Transfer Learning)
- Human Activity Recognition with LSTM from Sparse Pose Representation
- Motion Analytics GUI Tool

- Residual Net for Car Detection with spatial transformation
- Autonomous driving system with Machine Learning in Matlab
- picast: A lightweight fast data streaming library for raspberry pi in python
- All Projects Descriptions/Prototypes: <https://zabir.info/projects.html>

## DATA SCIENCE COMPETITIONS

Numta, Bengali Handwritten Digit Recognition Challenge ( 7th Bengali.AI ranking, Kaggle Top 15% )

<https://www.kaggle.com/furcifer>

Quora Insincere Questions Classification: Detect toxic content to improve online conversations ( Kaggle Top 35% )

## VOLUNTEER EXPERIENCE

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Secretary, **IEEE KUET Student Branch**; Algorithmic Problem Setter, **CodeAssign** (start-up focused on OJ, based on Croatia); Software Team Lead, **KUET Rover Makers** (KUET Robotics Team); Intro Python Instructor, **Fab Lab KUET**; Technical organizer, **TechNival** (Manipulators of Electrons Club, KUET); Founder & Fellow Member, **IRAS** (Innovation and Research Association for Students, KUET); General Secretary, **SGIPC** (club of competitive programming community at KUET)

## OTHERS

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**National BACS Programming Camp 2017**, Khulna Region (got invitation, participated), National Round **2017** (got invitation, participated); Mentor, **Trial & Error: Introductory Robotics Workshop** arranged by **KUET Makers Hub**; Mentor, **Introductory Robotics Workshop** arranged by **Manipulators of Electrons Club, KUET**; Mentor, **Making Intelligent Robots** arranged by **KUET Robonic (Robotics Club, KUET)**