Toqi Tahamid Sarker

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EDUCATION

- **BRAC University**   **Dhaka, Bangladesh**
  Bachelor of Science in Computer Science and Engineering; CGPA: 3.31/4.00   *Sep. 2012 – Dec. 2016*
  - **Grade A** (90+) in **8+** specialty courses including *Data Structures, Algorithms, Digital Logic Design, Elements of Statistics and Probability, Data Communication and Numerical Methods*
  - **Computer Science and Engineering Major Courses:** Programming, Data Structures, Algorithms, Discrete Mathematics, Numerical Methods, Database Systems, Operating System, Compiler Networks, Computer Graphics, Automata and Computability, Compiler Design, Artificial Intelligence, Mobile Programming, Software Engineering, and System Analysis and Design

RESEARCH EXPERIENCE

- Supervisor: Dr. Juan M. Banda, Gerogia State University   *Aug. 2018 – Aug. 2019*
  - **Solar Event Tracking with Deep Regression Networks: A Proof of Concept Evaluation**
  - Created a solar image dataset containing 616,194 images from the Solar Dynamic Observatory and trained a deep regression network to track the movement of two solar phenomena: Active Region and Coronal Hole events

- **Undergraduate Thesis,** Supervisor: Mr. Moin Mostakim, BRAC University   *Jan. 2016 – Dec. 2016*
  - **Vehicle Model Identification Using Neural Network Approaches**
  - Conducted research using several deep convolutional neural network architecture to the Stanford Car dataset to classify the make, model and year of the vehicles
  - **Thesis Grade**: GPA 4.00/4.00

WORK EXPERIENCE

- **Penguin.com.bd**   **Co-founder**
  Co-founded an e-commerce platform for gadgets and electronics in Bangladesh   *Dec. 2017 - Present*
  - Worked as a technical co-founder and developed entrepreneurial skills
  - Built the whole platform from scratch on top of WooCommerce and other open-source tools
  - Developed the warranty, return and refund management system
    - Golang and PostgreSQL backend deployed using Docker, Kubernetes and Istio
    - React and Next.js frontend deployed on a serverless platform

- **Panacea Lab, Georgia State University**   **Graduate Research Assistant**
  Worked under the supervision of Dr. Juan M. Banda   *Aug. 2018 - Aug. 2019*
  - Developed and cleaned a large-scale solar dataset from Solar Dynamics Observatory
  - Trained a deep regression network to predict the location of solar events in future images
  - Evaluated the predictions across multiple metrics and improved the model's performance
  - Contributed to writing and publishing a paper in a workshop at the IEEE Big Data 2019 conference

TEACHING EXPERIENCE

- **CSC 1010 - Computers and Applications**   **Georgia State University**
  Responsibilities: *Summer, 2019*
  - Graded assignments, exams, and quizzes and held office hours for students

- **CSC 4980/6980 - Blockchain and Applications**   **Georgia State University**
  Responsibilities: *Spring, 2019*
  - Conducted a class on my own on "Introduction to Python"
  - Graded exams and assignments, and held office hours providing assistance to students

Competition

- **Kaggle Competition** *Dec. 2016 – Apr. 2017*
  - **The Nature Conservancy Fisheries Monitoring**
  - Inception V3, a deep convolutional neural network architecture was used to classify the fish for this competition
  - **Position**: 376th out of 2293 participants. Top 17% ranking

Projects

- **COVID-19 Tracker**: Created interactive dashboard using React and Ant Design utilizing the open-source API from Johns Hopkins University that displays the daily and monthly occurrence of COVID-19-infected patients in 2020
- **Bangla Handwritten Character Recognition with CNN Approaches**: Project for Data Mining graduate coursework. Used BanglaLekha handwritten character dataset to classify the characters using a Convolutional Neural Network
- **Medicare Data Mining**: PostgreSQL project for Database graduate coursework. Cleaned the raw Medicare dataset and ran SQL queries to find patterns between the patients, insurance providers, and hospitals
- **Bank Management System**: An undergraduate Database project of bank management system that provides transactional, loan, and money transfer facility (MySQL Back-end)
- **Movie and TV Show Tracker for Android**: An Android app to track the latest and upcoming movies and TV shows (Android Development Undergraduate Course Project)
- **Online Home Monitoring System with Arduino**: A Digital System and Design course project. This system is designed to provide the users the ability to monitor their home by using a smartphone
- **RFID Based Automated Attendance System**: A Computer Interface undergraduate course project. This is an automated system that counts attendance using RFID

Extracurricular Activities

- **Volunteer,** HackGSU Hackathon, Gerogia State University *Oct. 2018*
  - Helped with the sign-up process and provided support for dining arrangements at the hackathon event

- **Director,** Monon Community Service Club, BRAC University *May. 2015 – Apr. 2016*
  - Led the Graphics and Production team of Monon Community Service Club

- **Student Mentor,** First Year Advising Team, BRAC University *Jan. 2014 – Dec. 2014*
  - Mentored a team of 25 freshman students and monitored their academic performance and needs during their first year

- **Executive,** BRAC University Film Club, BRAC University *Sep. 2013 – Jan. 2014*
  - Coordinated with the Marketing team and work closely with the apprentice of BRAC University Film Club

- **Volunteer,** BRAC University *Sep. 2013 – Jan. 2014*
  - Successfully organized the freshers orientation event of BRAC University for consecutively two semester

Technical Skills

- **Programming Languages**: Python, Java, JavaScript, Golang, Matlab, LaTeX
- **Databases**: PostgreSQL
- **Technologies**: Keras, Tensorflow, NumPy, pandas, matplotlib, SunPy, SciPy, scikit-learn, React, Next.js, UNIX, Git
- **Cloud Environments**: Docker, Kubernetes, Istio

References

- **Dr. Juan M. Banda**
  Assistant Professor
  Georgia State University
  Department of Computer Science
  jmbanda@gsu.edu

- **Dr. Amitabha Chakrabarty**
  Associate Professor
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- **Dr. Jia Uddin**
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