

# MD JAHANGIR ALAM KHONDKAR

9612, Vinca Cir., Apt. D, Charlotte, NC

+1 315 261 1164 | [mkhondka@charlotte.edu](mailto:mkhondka@charlotte.edu) | [LinkedIn](#) | [GitHub](#) | [ResearchGate](#) | [Google Scholar](#)

---

## EDUCATION:

### PhD in Computing & Information Systems, Computer Science

University of North Carolina at Charlotte, NC (1st Year)

Advisor: Dr. Stephanie Schuckers

CGPA: 4.00/4.00

### M.Sc. in Electrical and Computer Engineering

Clarkson University, Potsdam, NY

CGPA: 4.00/4.00

### Master of Science (M.Sc.) in Computer Science & Engineering

Stamford University, Dhaka, Bangladesh

CGPA: 3.98/4.00

### Bachelor of Science (B.Sc.) in Electronics and Communication Engineering

Institute of Science and Technologies, National University, Bangladesh

CGPA: 3.39/4.00

## RESEARCH AND PROFESSIONAL EXPERIENCE:

### Research Assistant

Computing & Information Systems, University of North Carolina at Charlotte

January 2025 – Present

- Conducting research on 3D face mask generation, biometric spoof detection, and deep learning-based face reconstruction; contributing to dataset preparation, experimental pipeline development, and manuscript preparation for journals and conferences.

### Teaching Assistant

Electrical and Computer Engineering Dept, Clarkson University, Potsdam, NY

January 2023 – December 2024

- Supported instruction and lab activities for "**Embedded Systems**" (EE26001, Spring 2023, Spring 2024) and "**Introduction to Digital Design**" (EE26401, Fall 2023, Fall 2024); assisted students with programming, circuit design, project supervision, and grading.

### Manager-IT (Systems and Network Operations)

FRIENDSHIP NGO, Dhaka, Bangladesh

August 2018 – December 2022

- Designed and maintained LAN/WAN network infrastructure, managed server systems, implemented network security solutions, and supported ICT initiatives for remote and rural communication projects.

### Assistant Manager (Technical)

Computer City Technologies Limited, Dhaka, Bangladesh

March 2015 – July 2018

- Led technical teams on networking, surveillance systems, and biometric access control system projects, supervised system integrations, and client deployment support.

### Undergraduate Student Mentoring

Department of Computer Science, UNC Charlotte

Spring 2025

- Supervised four undergraduate groups (3 students per team) as part of the "Introduction to Biometrics" course.
- Provided technical feedback, research direction, and hands-on debugging throughout the semester.
- Guided project development across diverse biometric topics:
  - **3D Face Mask Generation** and Identification using deep learning and 3D printing
  - **3D Printed Fingerprint Spoof Mold Creation** for anti-spoofing evaluation
  - **Speech and Speaker Recognition** using MFCCs and neural classifier
  - **Audio Denoising for Speaker Recognition** using Signal Enhancement Techniques

## RESEARCH PROJECTS:

### Research Projects (UNC Charlotte)

- **Study of Identity Preservation in Deepfake Face Swapping Tools and 3D Mask Creation**  
- Reviewing state-of-the-art 2D-to-3D facial reconstruction techniques, generating physical 3D face masks using selected models, and evaluating identity preservation in both digital and printed forms.  
[Ongoing research]
- **Early Autism Detection in Infants Using AI-Based Video Analysis**  
- Exploring AI-based motion tracking for early autism detection; training models on video datasets to analyze behavioral patterns and assist in early diagnosis.  
[Ongoing research]

### Research Projects (Clarkson University)

- **Advancements in Synthetic Generation of Contactless Palmprint Biometrics Using StyleGAN Models**  
- Developed synthetic palmprint data for contactless biometrics.  
[ Published in the Journal of Cybersecurity and Privacy. 2024]
- **Development of an NIR-based Infant Iris Scanner**  
- Developed a portable NIR-based infant iris scanner using Jetson Nano.  
[ Published in *IEEE EMBC*, 2024]
- **Deep Learning Based Audio Denoising using Wave U-Net**  
- Developed audio denoising using the Wave U-Net, CMGAN, and UNet algorithms and tested it with Verispeak.  
[Ready for publications]
- **Noise-Resilient Voice Data Preparation using Kalman Filter**  
- Developed an open-source pipeline for audio denoising using the Kalman filter.  
[ Ready for publications, Reference: Alim, A.; Purnapatra, S.; Khondkar, M. J. A.; Schuckers, S.; Imtiaz, M. H. Open-Source Pipeline for Noise-Resilient Voice Data Preparation. Preprints 2024]
- **Electrochemical measurement using Arduino MKR ZERO and BLE microcontroller with LMP91000**  
- Conducted electrochemical measurements like Chronoamperometry and Cyclic Voltammetry with a BLE microcontroller.  
[Ongoing paper on the project's results]
- **Voice Pre-Processing and Quality Assessment Dataset (VPQAD)**  
- Collect audio data from noisy environments  
[ Published in IEEE Data Port]
- **Biometric Data Collection for "Biometric Aging in Children"**  
- Collected various biometric data, including fingerprints, palm prints, iris, footprints, faces, and audio recordings from young participants.

## PUBLICATIONS:

- Chowdhury AMM\*, **Khondkar MJA\***, Imtiaz MH. *Advancements in Synthetic Generation of Contactless Palmprint Biometrics Using StyleGAN Models*. Journal of Cybersecurity and Privacy. 2024; 4(3):663-677.  
<https://doi.org/10.3390/jcp4030032> [Equal contribution as second author]
- **M. J. Alam Khondkar**, M. Abdul Baset Sarker, M. H. Imtiaz and S. Schuckers, "Development of a NIR-based Infant Iris Scanner," 2024 46th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Orlando, FL, USA, 2024, pp. 1-4, doi: 10.1109/EMBC53108.2024.10781495
- Ajan Ahmed, **Md Jahangir Alam Khondkar**, Ansen Herrick, Masudul H. Imtiaz, September 12, 2024, "Descriptor: Voice Pre-Processing and Quality Assessment Dataset (VPQAD)," IEEE Dataport, doi: <https://dx.doi.org/10.21227/yb1h-hs38>.
- Masudul Haider Imtiaz, S. M. Safayet Hossain, & **Md. Jahangir Alam Khondkar**. *Prospects of Solar Power Satellite in Bangladesh*. – Global Journals Inc., 2013  
[https://globaljournals.org/GJRE\\_Volume13/1-Prospects-of-Solar-Power.pdf](https://globaljournals.org/GJRE_Volume13/1-Prospects-of-Solar-Power.pdf)
- **Md Jahangir Alam Khondkar**, Masudul Haider Imtiaz & Dr. Shahida Rafique. *Online mapping of coastal morphological Changes in Bangladesh*. - BES Journal, 2013  
[http://www.bes.com.bd/index.php?option=com\\_content&view=article&id=134:online-mapping-of-coastal-morphological-changes-in-bangladesh&catid=40:2013-issues-archive&Itemid=89](http://www.bes.com.bd/index.php?option=com_content&view=article&id=134:online-mapping-of-coastal-morphological-changes-in-bangladesh&catid=40:2013-issues-archive&Itemid=89)

\* denotes equal contribution

## RESEARCH AFFILIATIONS:

### Student Volunteer, Center for Advanced PCB Design and Manufacture (CAPDM)

Clarkson University, Potsdam, NY

2023-2024

- Assisted with PCB design and fabrication tasks for research and student projects using Altium Designer and Bantam PCB Milling Machine. Supported training initiatives in schematic design, component selection, and prototyping under Dr. Masudul Imtiaz (Director), Dr. Silvana Andreescu, and Dr. Ajay Sonar (Co-directors).

## AWARDS AND HONORS:

### 5th Place Finalist, Sierrathon – PCB Design for Innovation Competition

Sierra Circuits, University of San Jose, California – 2024

- Ranked 5th nationally in Sierra Circuits' inaugural PCB design competition. Represented Clarkson University as part of a 3-member ECE team (Jack Flaherty, Md Jahangir Khondkar, and Sigmond Kukla) under the supervision of Prof. Masudul Imtiaz and the Center for Advanced PCB Design and Manufacture ([CAPDM](#)). ([link](#))

### 3rd Place, CITeR – Project Showcasing Competition

CITeR Event, Clarkson University, Potsdam, NY – 2023

- Awarded 3rd position for presenting a biometric research project at the Center for Identification Technology Research (CITeR) annual showcase event

## SKILLS:

- **Operating Systems:** Windows, Linux, macOS
- **ML/DL:** GAN, StyleGan2-ADA, StyleGAN3, CMGAN, Wave-U-Net, U-Net, Yellowv3, Landmark68, Media pipe
- **Networking:** Subnetting, Routing, Switching, Firewall, VPN, SDN, Network Slicing, MCE, Edge Computing
- **Programming:** C, C++, Python, MATLAB
- **Web Development:** HTML, CSS, PHP, WordPress
- **Database:** MySQL, PostgreSQL, MS Access
- **Graphics:** Adobe Illustrator, Photoshop
- **Photography:** DSLR, Macro, Telephoto, and Prime Lens