Md Yousuf Harun

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EDUCATION

Rochester Institute of Technology NY, USA
PhD in Imaging Science Aug. 2020-May 2025
- **Adviser:** Dr. Christopher Kanan
- GPA: 3.84/4.0

University of Hawaii HI, USA
MS (Thesis) in Electrical Engineering Aug. 2018-May 2020
- **Advisers:** Dr. Aaron Ohta and Dr. Il Yong Chun
- GPA: 3.95/4.0

Khulna University of Engineering & Technology Khulna, Bangladesh
BS (Hons.) in Electrical & Electronic Engineering Feb. 2012-May 2016
- **Adviser:** Dr. Mahbub Hasan
- GPA: 3.57/4.0

EXPERIENCES

♦ **Center for Imaging Science, Rochester Institute of Technology** NY, USA
Graduate Research Assistant May. 2021-Present
- Conduct research in continual learning for real-world applications

Research Trainee in NSF AWARE-AI Jan. 2022-Present
- Develop lifelong machine learning system for robotics

Graduate Teaching Assistant Aug. 2020-May 2021
- Courses: 1) Imaging Science Fundamentals, 2) Fourier Method for Imaging

♦ **Department of Electrical Engineering, University of Hawaii** HI, USA
Graduate Research Assistant Aug. 2019-May 2020
- Conduct research in medical image segmentation and magnetic resonance imaging (MRI) image reconstruction

Graduate Teaching Assistant Aug. 2018-Dec. 2019
- Courses: 1) Communication Systems Lab, 2) Basic Circuit Lab, 3) Programming Language (C)

RESEARCH PROJECTS

- **PhD Research:** Efficient Online Continual Learning for Real-World Applications
- **MS Research:** Medical Image Segmentation of Cellular Images using Deep Learning

TECHNICAL SKILLS

- **Programming Languages:** C, C++, Matlab, Python • **Deep Learning Framework:** PyTorch
- **Scientific Computing Packages:** Numpy, Scipy, Scikit-learn, Pandas
- **OS & Applications:** Linux, MS Office, Git, Bash Scripting, LaTeX, Typing Speed: 50 wpm

CV as of Sep 29, 2024

AWARDS

- **Awards: 1)** IEEE WNYISPW Best Student Abstract Award-2023, **2)** UHM Dept. of EE Research Excellence Award-2020, **3)** UHM Dept. of EE Teaching Excellence Award-2019, **4)** Bangladesh Government Merit Scholarship in Higher Secondary Certificate Examination-2011, **5)** Bangladesh Government Merit Scholarship in Secondary School Certificate Examination-2009
- **Travel Grants: 1)** IEEE NANOMED Conference-2019, **2)** Bangladesh Sweden Trust Fund-2018

PUBLICATIONS

Pre-Print:

- S. Srivastava, **M.Y. Harun**, R. Shrestha, and C. Kanan. Improving Multimodal Large Language Models Using Continual Learning. *ArXiv, 2024*

Journal Papers:

- **M.Y. Harun** and C. Kanan. Overcoming the Stability Gap in Continual Learning. *In: TMLR, 2024*
- **M.Y. Harun**, J. Gallardo, T.L. Hayes, R. Kemker, and C. Kanan. SIESTA: Efficient Online Continual Learning with Sleep. *In: TMLR, 2023*
- T.T. Huang, T. Kosasa, B. Walker, C. Arnett, C.T. Huang, C. Yin, **M.Y. Harun**, H.J. Ahn, and A. Ohta. Deep Learning Neural Network Analysis of Human Blastocyst Analysis from Time-lapse Image Files. *In: Reproductive BioMedicine Online, 2021*

Conference Papers:

- **M.Y. Harun**, K. Lee, J. Gallardo, G. Krishnan, and C. Kanan. What Variables Affect Out-of-Distribution Generalization in Pretrained Models? *In: NeurIPS, 2024*
- **M.Y. Harun**, J. Gallardo, J. Chen, and C. Kanan. GRASP: A Rehearsal Policy for Efficient Online Continual Learning. *In: CoLLAs, 2024*
- **M.Y. Harun**, J. Gallardo, T.L. Hayes, and C. Kanan. How Efficient Are Today's Continual Learning Algorithms? *In: CVPR-W: CLVision, 2023*
- **M.Y. Harun**, M.A. Rahman, J. Mellinger, W. Chang, T. Huang, B. Walker, K. Hori, and A. Ohta. Image Segmentation of Zona-Ablated Human Blastocysts. *In: IEEE NANOMED Conference, 2019*
- **M.Y. Harun**, T. Huang, and A. Ohta. Inner Cell Mass and Trophectoderm Segmentation in Human Blastocyst Images using Deep Neural Network. *In: IEEE NANOMED Conference, 2019*

Poster:

- T. Huang, B. Walker, **M.Y. Harun**, M.A. Rahman, J. Mellinger, W. Chang, and A. Ohta. Automated Computer Analysis of Human Blastocyst Expansion from Embryoscope Time-Lapse Image Files. *In: American Society for Reproductive Medicine, 2019*

SOFTWARE

- EmbryoSoft: Segments human embryo cells to assist doctors at Pacific IVF Institute, HI

SERVICES

- Reviewer: ICRA'21, TCAD'23, WACV'23-24, ECCV'24, CVPR'24, CoLLAs'24, NeurIPS'24
- Mentor: Native Hawaiian Science and Engineering Mentorship Program, UHM, 2019

REFERENCES

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Dr. Aaron Ohta
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