Syed Muiz Sadat Yashfe

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EDUCATION

Purdue University, Indiana, USA August 2024 – Present
Doctor of Philosophy (Ph.D.) in Biomedical Engineering

Military Institute of Science and Technology (MIST), BUP, Dhaka February 2019 – February 2023
Bachelor of Science in Biomedical Engineering **CGPA**: 3.82 (out of 4.00)

PROFESSIONAL EXPERIENCE

Graduate Research Assistant **August 2024 – Present**
Vlachos Research Group, Weldon School of Biomedical Engineering, Purdue University IN, USA

Undergraduate Research Assistant **April 2023 – April 2024**
Bioinnovation Research Group, Department of Biomedical Engineering, BUET Dhaka, Bangladesh

- Worked on a project titled "Vascular geometry based Real-time risk prediction system" to predict vascular risk based on geometrical features, guided by computational fluid dynamics and deep learning algorithm.
- Analyzed the hemodynamic changes in tortuous coronary arteries in hypertensive conditions using computational fluid dynamics and pulsatile blood pressure and velocity profile.
- Collaborated with the country's leading cardiologists on designing assistive tools in intervention.
- Consulted with healthcare industry leaders on integrating computation-driven assistive tools in the clinical workflow of Bangladesh.
- Mentored 2 summer interns on complete computational modeling study pipeline.
- Facilitated undergraduate research regarding aneurysm structure modeling.

Biomedical Engineering Intern **February 2022 – March 2022**
Department of Biomedical Engineering, Evercare Hospital Dhaka, Bangladesh

- Gathered hands-on experience on 15+ fundamental biomedical equipment (CT, MRI, Ultrasound).
- Learned about equipment maintenance, repair, and hospital management.
- Prepared comprehensive reports on the detailed description of equipment and labs.

RESEARCH SKILLS

Skill: Medical Image segmentation, 3d modeling, Computational modeling, Fluid-structure Interaction, Finite element analysis, Statistical analysis, Result visualization, Programming, Mechanical testing.

Software: Ansys (Fluent, Static and Transient Structural), MIMICS, Paraview, Minitab, Sol1idWorks, MATLAB, Simulink, Kinovea, Python, Microsoft Office, Adobe Creative Cloud, Arduino.

SCHOLARLY CONTRIBUTIONS

Patent

- Arafat, M.T., **Yashfe, S.M.S.** & Ashrafee, A. (2023). Vascular Risk Assessment Tool (BD Patent No. P/BD/2023/000144). Bangladesh Patent, Designs and Trademark Office. (**Patent filed**)

Peer Reviewed Journal

- **Yashfe, S.M.S.**, Ashrafee, A., Khan, N.S., Islam, M.T., Azam, M.G. & Arafat, M.T. (2023), "Design of Experiment Approach to Identify the Dominant Geometrical Features of Left Coronary Artery Influencing Atherosclerosis", *Biomedical Physics & Engineering Express* **(Accepted).**

Peer Reviewed Conference Proceedings

- **Yashfe, S.M.S.**, Ashrafee, A., Khan, Rabbi, M.F. & Arafat, M.T. (2023), "Impact of Left Coronary Arterial Tortuosity on Atherosclerosis in Normal and Hypertensive Conditions: A Hemodynamic Perspective", *14th International Conference on Mechanical Engineering* **(Accepted for publication).**
- **Yashfe, S.M.S.**, Ashrafee, A., Rahatuzzaman, M. & Ornob, A. (2023), "A 3D Printed Shape Optimized and Modular Trans-Tibial Pylon with Adaptive Load Capacity", *14th International Conference on Mechanical Engineering* **(Accepted for publication).**

Poster Presentation

- **Yashfe, S.M.S.**, Ashrafee, A., Islam, M.T., Azam, M.G. & Arafat, M.T. (2023, September), "On the rank of left coronary artery geometrical features influencing atherosclerosis - A design of experiment study", Poster presented at *Carnegie Mellon University Forum On Biomedical Engineering***,** Pittsburgh, PA.

ACHIEVEMENTS

- Dean's honor list (Sophomore, Junior, and Senior year)
- Merit Scholarship (Fall '19, Spring '20, Fall '20, Spring '21, Fall '21, Spring '22)
- Selection of "Vascular Risk Assessment Tool" in the top 255 out of 7000 projects in "Bangabandhu Innovation Grant 2023"