

TRINA BARUA

M.Sc., Mechanical Engineering

715, Border Place, Arlington, TX, 76013
(682)208-4102; trina.barua@mavs.uta.edu
Linkedin Profile: www.linkedin.com/in/baruatrina/

SUMMARY OF QUALIFICATIONS:

- 1.5 years of R&D experience on **3D and 2D modeling** using AutoCad, SolidWorks and CATIA V5
- 1.5 years of **Finite Element Analysis** experience with ANSYS, ABAQUS, Hypermesh
- 1.5 years of experience on Accelerated Thermal Cycling Test, Impact Test and Material Characterization
- **Taught Communication and Seminar Course** at Ahsanullah University of Science and Technology
- **Led and arranged** a four day Mechanical Festival with cultural events, competitions and a career fair in 2010
- **Magna Cum Laude** at Bangladesh University of Engineering and Technology

EXPERIENCE:

Graduate Research Assistant, the University of Texas at Arlington: September 2014 to Present
Electronics MEMS and NANOELECTRONICS Systems Packaging Center (EMNSPC)

SRC Project sponsored by **Texas Instruments (TI)** under Dr. Dereje Agonafer

- Designed **3D model** and **2D sketch** using **ANSYS Design Modeler, AutoCad, SolidWorks**
- **Finite Element Analysis** Projects: Dynamic, Static and Thermo-mechanical Structural behavior
- **Characterized materials** using Microtester, Digital Image Correlation and Accelerated Thermal Cycling
- Observed response of structures due to Bending, Impact Load, Fracture and Failure of materials
- **Six abstracts**, as a lead and second author, are accepted related to Drop Test, Warpage and Bending
- Set up DMA, TMA, Environmental Chamber and Event Detector as a **team leader**
- Maintained technical **liaison and coordination** with Texas Instruments regarding various projects
- Received training at Texas Instruments and Hitachi on ATC, DMA and TMA

Graduate Teaching Assistant, the University of Texas at Arlington: September 2015 to Present
ME 5341 & MAE 4312- Control System Components

ME 5310 - Finite Element Methods

MAE 1312 - Engineering Statics January 2015 to May 2015

Part-time Lab Assistant, The University of Texas at Arlington: March 2014 to May 2014
Designed and set up experimental test-rigs of Bearing and Rotor components

Lecturer, Ahsanullah University of Science and Technology: October 2012 to December 2013
Courses taught - Interactive Communications, Solid Mechanics and Thermodynamics

Industrial Attaché, British American Tobacco Bangladesh August 2011 to September 2011

- Managed and supervised maintenance, quality control and data logging of production
- Performed **Six-Sigma** analysis at different points of the production line

STUDENT PROJECTS:

Bangladesh University of Engineering and Technology May 2011

Study of Internal Combustion Engines

- Observed disassembling and assembling of a four cylinder Spark Ignition (SI) engine and a diesel engine
- Observed functions of a Fuel System, Air Intake System, Lubrication System
- Calculated Brake Specific Fuel Consumption, Brake Horse Power using Water Dynamometer

Study of Power Plant Engineering

671 MW Ashuganj Power Plant and 4 MW BUET Power Plant

Studied Power Plant Engines, Fuel Supply, Cooling System and Exhaust Systems

TECHNICAL SKILLS:

Stress and Deformation Analysis using Finite Element Methods - ANSYS, ANSYS APDL, ABAQUS, HyperMesh; 2D and 3D Design using Solidworks, AutoCAD, CATIA V5, ProE; Analytical analysis using MATLAB and Mathematica; Programming Language using C, C++

EDUCATION:

Master of Science in Mechanical Engineering May 2016 (Expected)
The University of Texas at Arlington (UTA) GPA: **3.89**

Courses: Finite Element Methods, Structural Aspects of Design, Tribology, Introduction to Statistics

Bachelor of Science in Mechanical Engineering March 2012
Bangladesh University of Engineering and Technology (BUET) GPA: **3.84** with **HONORS** (7th Position)

Courses: Power Plant Engineering, Automobile Engineering, Measurement and Quality Control

PROFESSIONAL MEMBERSHIP

Surface Mount Technology Association (SMTA) – **Treasurer** of Student Chapter; American Society of Mechanical Engineers (ASME); Society of Automotive Engineers (SAE); Society of Women Engineers (SWE)

ACADEMIC EXCELLENCE:

Dean's Listed for four years in a row; Undergraduate Merit Awards recipient for four years in a row; Bangladesh Government Divisional Board Merit Scholarship recipient; Topped Finite Element Methods, Engineering Analysis I & II at the University of Texas at Arlington

EXTRACURRICULAR ACCOMPLISHMENTS:

Undergraduate Discuss Throw, Javelin, Shot-put winner; Undergraduate All-around Athletics Runner-Up; High School All-around Athletics Champion; High School Handball and Volleyball Champion; Named Captain of High School Handball and Volleyball teams Two Years in a row