

SAIF KHAN ALEN

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• (217)-979-5123

EDUCATION

MS in Mechanical Engineering, University of Illinois at Urbana-Champaign, expected December 2017

- Experience working in MNMS 'Cleanroom'
- Researcher at 'Air Conditioning and Refrigeration Center'

BS in Mechanical Engineering, Bangladesh University of Engineering and Technology, September 2015

CGPA: 3.94/4.00

Basic Course on Micro-controller, PI Labs Bangladesh Limited, August 2012

Certificate in IT Power User, NIIT Barisal Center, June 2007

EXPERIENCE

Graduate Teaching Assistant, Department of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign, Aug. 2016 – Present

- Responsibilities include taking classes as well as demonstrating laboratory experiments to the Undergraduate students

Lecturer, Department of Mechanical Engineering, Bangladesh University of Engineering and Technology, Apr. 2016–Aug. 2016

- Responsibilities include taking classes, demonstrating laboratory experiments and coordinating student projects of the UG students
- Arranged departmental seminars as well as worked in the publication committee of international conference

Graduate Engineering Trainee, GE Power, General Electric, Oct. 2015 – Apr. 2016

- Responsibilities include Sales, Marketing and Commercial Operations of Gas Turbines
- Got exposure in Process Engineering and Application Engineering

Lecturer, Department of Mechanical Engineering, Sonargaon University, Sep. 2015 – Apr. 2016

- Responsibilities include taking classes as well as demonstrating laboratory experiments to the Undergraduate students

Internship, Manufacturing Department, British American Tobacco Bangladesh, Mar. 2015 – Apr. 2015

- Responsibilities include working in Primary Manufacturing Department and Secondary Manufacturing Department
- Project include analyzing the time-motion flaws of the overall production process in the industry

RESEARCH PROJECTS

Drainage of Condensate Retention between Fins on a Horizontal Tube Using Wettability Management

Guide: Prof. Dr. Xiaofei Wang, MechSE, UIUC

(Aug. 2016 – Present)

- Exploring the dynamic behavior of a liquid droplet moving through an inclined surface with wettability gradient
- Exploring refrigerant condensate and retention on flat and fin surface with wettability gradient, including effect of gradient level
- Testing the wettability management effect on heat transfer performance, condensate retention with a finned tube using refrigerant

Study of wetting behavior and mobility of liquid droplets on flat and microgrooved metal surfaces

Guide: Prof. Dr. Md. Ashiqur Rahman, ME, BUET

(May 2015 – Sep. 2016)

- Developing a numerical model to analyze static and dynamic wetting behavior of a liquid droplet over different rough metal surface
- Analyzing the droplet mobility and water drainage behavior of rough surface with wettability gradient

Automatic Industrial Cooler with Wireless PC Control

Guide: Prof. Dr. M. A. Rashid Sarkar, ME, BUET

(Jan. 2013 – Apr. 2015)

- Designing and Developing several robotic systems and analyzing their performance: SCARA, LFR, PC & RF Controlled Robot, etc

PUBLICATIONS

- **Saif Khan Alen**, Nazia Farhat and Md. Ashiqur Rahman, "**Simulation of sliding of liquid droplets**," *American Institute of Physics (AIP) Conference Proceedings* 1754 (The 11th International Conference on Mechanical Engineering (ICME-2015)), 18-20 December 2015, Dhaka, Bangladesh.
- **Saif Khan Alen**, Nazia Farhat and Md. Ashiqur Rahman, "**Analytical modeling of wetting states and simulation of drop shapes on microstructured rough surface**," *American Institute of Physics (AIP) Conference Proceedings* 1754 (The 11th International Conference on Mechanical Engineering (ICME-2015)), 18-20 December 2015, Dhaka, Bangladesh.
- Nazia Farhat, **Saif Khan Alen** and Md. Ashiqur Rahman, "**Numerical study of the wetting and mobility of liquid droplets on horizontal and inclined flat and microgrooved surfaces**," *Procedia Engineering Journal* (The 6th BSME International Conference on Thermal Engineering (ICTE 2014)), Volume 105, 2015, Pages 576–585.
- **Saif Khan Alen** and M. A. R. Sarkar, "**Performance of a Locally Fabricated Wireless PC Controlled SCARA Robot**," The 2nd International Conference on Mechanical Engineering and Renewable Energy (ICMERE-2013), 01-03 May 2014, Chittagong, Bangladesh.
- **Saif Khan Alen** and M. A. R. Sarkar, "**Fabrication and Performance of an Automatic Industrial Cooler Robot**," 15th Annual Paper Meet (APMME-2014), 07-08 February 2014, Mechanical Engineering Division, IEB, Dhaka, Bangladesh.
- **Saif Khan Alen** and M. A. R. Sarkar, "**Present Scenario and Prospect of the Power and Energy Sector in Bangladesh**," 15th Annual Paper Meet (APMME-2014), 07-08 February 2014, Mechanical Engineering Division, IEB, Dhaka, Bangladesh.
- M. R. Rahman, **Saif Khan Alen**, Q. M. Z. Hoque and M. A. R. Sarkar, "**Study and Analysis of Control System of a Thermal Power Plant**," 15th Annual Paper Meet (APMME-2014), 07-08 February 2014, Mechanical Engineering Division, IEB, Dhaka, Bangladesh.
- **Saif Khan Alen** and M. A. R. Sarkar, "**Utilization and Prospect of the Energy Sector in Bangladesh**," The 11th National Conference on Industrial Problems on Machines and Mechanisms (IPRoMM-2014), 26-27 February 2014, I. T. S. Engineering College, Greater Noida, India.

- **Saif Khan Alen** and M. A. R. Sarkar, "**Fabrication and Performance Analysis of a Fire Fighting Mobile Robot**," The 9th International Forum on Strategic Technology (IFOST-2014), 21-23 October 2014, Cox's Bazar, Bangladesh.
- Md. Yeashir Arafat, Shashwata Chakraborty, **Saif Khan Alen** and M. A. R. Sarker, "**Design and Modeling of a Solar Powered Absorption Refrigeration System**," The 11th Global Engineering, Science and Technology Conference (GESTC-2015), 18-19 December 2015, Dhaka, Bangladesh.
- Shashwata Chakraborty, Md. Yeashir Arafat, **Saif Khan Alen** and M. A. R. Sarker, "**Design and Modeling of a Solar Dish Stirling Engine in the Perspective of Bangladesh**," The 11th Global Engineering, Science and Technology Conference (GESTC-2015), 18-19 December 2015, Dhaka, Bangladesh.

HONORS AND AWARDS

Winner of Four consecutive '**Dean's List Scholarship**' of BUET; Winner of Eight consecutive '**University Merit Scholarship**' of BUET; Winner of '**Technical Scholarship**' of BUET; 1st Runner Up in '**Bangladesh Mathematical Olympiad**'; Vice President of '**Robotics Association for Research (RAR)**' of BUET; Member of '**Engineering Student Association of Bangladesh (ESAB)**'; Activist of '**Youth for Bangladesh**'; Member of '**House of Volunteers (HOV)**' of BUET;

PROJECTS AND COMPETITIONS

International Robotic Contest- 2013; Inter University Design Contest 2014; National Robotic Festival- 2014;
CNSER Engineering Project Exhibition (CEPE) 2013; Student Project Show- 2014; EEE Day Inter University Project Competition- 2014;

SKILLS

Computer: COMSOL, SolidWorks, AutoCAD, MATLAB, Simulink, Microsoft, C and C++, Surface Evolver, MikroC, Proteus, *etc*
Language: English (fluent), Bangla (native)