

Syed Yusuf Ali

CONTACT

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EDUCATION

Master of Science and Engineering
(MSE) in Mechanical Engineering

August 2017 — Present

Johns Hopkins University

Major: Fluid Mechanics and Thermal Science

Bachelors in Mechanical
Engineering

August 2013 — May 2017

Zakir Hussain College of Engineering and Technology, Aligarh Muslim University,
Aligarh

- CPI: 9.2/10

Intermediate (12th Grade)

2011 — 2013

Senior Secondary School (BOYS), Aligarh Muslim University, Aligarh

- Percentage: 80%

High School (10th Grade)

2009 — 2011

Delhi Public School, Aligarh

- Scored a CGPA of 10.

PROJECTS AND ENGINEERING ACTIVITIES

Project: Student Formula Car Design and Fabrication

- Team member and in-charge of the design of intake and exhaust system of a student formula car in the ZHCET-FyR 2.0 project. A Formula car was designed by a team of 30 members and won "The Most Popular Car Award", securing overall 19th position at the JFK Formula Design Competition in January 2015 at Coimbatore, Tamil Nadu, India.
- Also handled the electronics and instrumentation system of the formula car.

Project: Autonomous Underwater Vehicle System Design and Fabrication

- Won the 1st prize and cash reward of Rs 15000 in "Technical Paper Presentation Competition" at The Unmanned Systems Conference and Exhibition INDIA (USCEI) in November 2014. (along with two other team members)
- Presented the Design of an Autonomous Underwater Vehicle at the National Institute of Ocean Technology (NIOT), Chennai and successfully cleared the first round of Student Autonomous Underwater Vehicle (SAVe) Competition, 2015.
- Successfully raised funds of Rs. 70,000 (approx) to begin fabrication of an Autonomous Underwater Vehicle (AUV) as an undergrad project at ZHCET, Aligarh.

Project: Robotics

- Attended a workshop organized by Aerotrix on "RC plane Design and Fabrication".
- Designed and fabricated a low cost, custom quadcopter, tested it and further optimized the software for more stable flight control. (6 member team at ZHCET, Aligarh)
- Experience with electronic prototyping boards including Arduino and Raspberry pi.

Project: 3D Android Game Design

- Experience in Game Design using Unity 3D physics engine.
- Game Development skills for Android and similar platforms.
- 3D Modelling, Design and Animation skills using AutoDesk 3DS max and Blender.

- Texture design, normal mapping and basic image editing skills using Photoshop and GIMP.

Project: CFD based 'Study of double-diffusive mixing of two pulsating impinging jets in a channel'

- Study of Steady state, double-diffusive mixing of two pulsating impinging jets in a channel.

Project: Immersed Boundary method Based CFD solver

- A sharp-Interface, cartesian grid method is used to develop a solver for simulation of flows with complex moving boundaries.
- Code is being written in FORTRAN 90 on Linux based systems using GNU compiler.
- Further the CFD solver will be completed, code will be validated and a particular practical problem will be simulated in the coming months.

MS Thesis at Hopkins: Computational Simulation and Analysis of Inertial Focusing in a Microfluidic Channel flow

- Advisor: Prof Gretar Tryggvason. Co-advisor: Prof Soojung Claire Hur
- Multiphase Flow Solver is being used with front tracking method.
- Programming languages used are FORTRAN and MATLAB.
- The migration of microfluidic particle to its inertially focused position is being studied numerically.

Engineering Skills

- Basic Fluid Flow analysis using ANSYS Fluent.
- Programming languages learnt and used extensively: C/C++, C#, HTML, CSS, FORTRAN.
- Basic CFD Solver code written in C++ using finite difference method.
- Comfortable with Linux environment and open source technologies.
- Machine Design Skills using AutoCAD and Solidworks.
- Experience with MATLAB software.
- Experience with Embedded C for coding robotic systems.
- Scientific Computing course being studied this semester at Johns Hopkins.

RECREATIONAL SKILLS AND HOBBIES

- Creative writing, including writing short stories, poems and novels.
- Debut Novel, "Enigma of Life" was self-published and was well received.
 - Review of novel as published in The Hindu, by Professor Shafey Kidwai: <http://www.thehindu.com/books/beyond-mother-tongue/article4221876.ece>
 - Review of novel as published in the English Journal, Points of View, by Professor Yusuf Amin: http://pointsofview.in/FullPdf/20_1.pdf, pg 176.
- Occasionally drafting posts for a blog on the internet.
- Editor-in-Chief of an Online Creative Writing Website.
- Part of the team of writers in official newspaper of Aligarh Muslim University, called 'The AMUSE'.