



Rahul Venkatesan

Phone: +91 8220320433

Email: rahulvenkatesh14@gmail.com

DOB: 06/04/1990

Education

December 2021 -Present

BITS Pilani, Pilani Campus, RJ, India

Junior Research Fellow in Aerospace Engineering

December 2021 -Jan 2022

- Organizing committee member of the 48th National Conference on Fluid Mechanics and Fluid Power (FMFP), December 27-29, 2021, BITS Pilani, Pilani Campus, RJ, India.

December 2021 -December 2022

- DST sponsored research project. "**Performance Improvement of Solar Thermal Systems using Magnetic Nanofluids**". Bi-Lateral: Department of Science & Technology, Govt. of India and National Research Foundation Of The Republic Of South Africa.

August 2019 -November 2021

Khalifa University, Abu Dhabi, UAE

Research Student in Aerospace Engineering

Jan 2021 – June 2021

- Courses on advanced boundary layer theory and advanced mechanics of solids and materials

May 2020 - December 2020

- Courses on Advanced Composite materials and structures.

January 2019 - May 2020

- Courses on Advanced Continuum Mechanics and Advanced Computational Fluid Mechanics.

August 2019 - December 2019

- Courses on Research Methods in Engineering, Advanced Non-Linear Structural Dynamics and Advanced Damage Mechanics of Solids and Structures.

September 2013 - December 2014:

The University of Manchester, Manchester, UK

M. Sc. in Aerospace Engineering

Result: Merit

- Had undertaken courses on Advanced Computational Fluid Dynamics, Advanced Aerodynamics, Advanced Aerospace Propulsion, and Advanced Helicopter Flight.
- Carried out computational evaluation of rotor alone noise in turbo-fan engines by modifying the fan blades using Computational Fluid Dynamics (CFD) analysis software ANSYS-Fluent and compare the thrust, efficiency and noise for dissertation thesis research.
- Key learning of working in groups and solving complicated problems to ensure successful completion of project before the deadline.
- Conducted workshops in Computational Fluid Dynamics (**April 6 – June16, 2014**) and Advanced Computational Fluid Dynamics (**June 23 – August 23, 2014**).

Position of responsibilities at “The University of Manchester” (UOM)

- Elected as International Students Action Group Chairman in the Students Union for the international students at The Manchester University.

June 2007- July 2011: SRM University, Chennai, India

B. Tech. in Aerospace Engineering GPA: 7.55 (Ranking in top 5 % among 45 number of graduating students)

- Had undertaken courses on Computational Fluid Dynamics, Fluid Dynamics, Low Speed and High Speed Aerodynamics, Aerospace Propulsion, Helicopter Aerodynamics, Flight Dynamics, and Aerospace Structures.
- Carried out final year project on demonstration of shift in transition point in boundary layer flow past various bodies using smoke flow visualization technique in a low speed subsonic wind tunnel. The investigation was carried out in NACA 6-3012 aerofoil at different temperatures and at different angles of attacks under the applied condition of total heating and leading edge heating.

April 2005 - June 2007: Sri Bhagwan Mahavir Jain College, Bangalore, India.

Science major with Physics, Chemistry, Mathematics and Biology Result: 64.9%

June 2004- July 2005: Sri Narayana Mission Senior Secondary School, Chennai, India.

Central Board of Secondary Education with Mathematics and Science Result: 78.5%

Experience

February 2016- August 2019: Assistant Professor, School of Aeronautical Sciences, Hindustan University, Padur, Chennai, India.

- Teaching and research in the field of aerospace.
- Taught courses on Wind Tunnel Techniques, Engineering Mechanics, Engineering Optimization, Rockets and Missiles and Aircraft Design for undergraduate students.
- Supervised undergraduate and postgraduate final semester projects towards successful completion.
- Worked on Computational Fluid Dynamics (CFD) projects and conducted workshops on advanced CFD techniques.

January 2015 – January 2016: Ground Engineering Staff (Customer Service Executive) in Jet Airways, Chennai, India.

- Part of ground engineering team dealing with the handling of passengers and scheduling of flights.
- Performed aircraft maintenance related activities before the flight and prepared the checklist for pre-flight.
- Part of the customer service executive and public relations team dealing with the service of customer related requests.

July 2011- July 2013: Design Engineer in HCL Technologies, Bangalore, India

- Part of design team dealing with product development of aircraft wheels, braking systems and brake control systems.
- Part of Value Analysis and Value Engineering (VAVE) project for Brake Temperature Monitoring System (BTMS) in aircraft brakes.
- Undertaken critical evaluation as a part of Component Maintenance Manuals (CMM) for aircraft wheels and brake systems.

Technical skills

- Hands on experience in working with Catia V-5. Familiar with UniGraphics, Pro-E, CAD and Solid Works.
- Good command over MATLAB/Simulink, FORTRAN 95, ANSYS-Fluent, CFX, ANSA and STARCCM. Familiar with C/C++.

Other Training/ Internships

May 23 - July 23, 2008

Toyota, India

- Knowledge gained in car aerodynamics and fuel efficiency improvement by design modification.

June 23 - August 23, 2009

Ramco Systems, India

- Experience in understanding the role of commercial software in aviation industry.

September 30 – November 5, 2010

Taneja Aviation Limited, India (TAAL)

- Hands on training in repairing, overhaul and maintenance of aircraft parts in aviation industry.

February 23 - March 23, 2014

Airbus, Broughton, United Kingdom

- Manufacturing of aircraft wings and assembling of the aircrafts.

April 23 - June 23, 2014

Airbus, Stevenage, United Kingdom

- Satellite manufacturing and assembling.

Standardized Tests

- GRE score total of 297 with 143 in verbal and 154 in quantitative
- English (IELTS – 6.5)

Achievements

- Received 'Best Paper Award' for the research paper titled "Effect of Shock Wave Boundary Layer Interaction on Supersonic Combustion in Scramjet Engine", National Conference-LAMSYS 2016, held on 24th and 25th June in SDSC SHAR, Sriharikota, ISRO, India.
- Received 'First prize' for the Mathematics competition titled "KU 2nd Mathematics Musabaqat 2020 Competition", Organized by Mathematics department, held on 1st and 3rd November in Khalifa University, Abu Dhabi, UAE.

Journal Publications

- "Effect of Micro Vortex Generators in modifying the Shock Wave Boundary Layer Interaction in Scramjet Engine", Journal of Spacecraft and Technology (JST), Vol. 28, Ref. No. JST-V28 (1)-04, 2017.
- "Modifying the onset of turbulence in a low speed subsonic wind tunnel", Hindustan Aeronautical Journal (HITS), Vol. 1, Issue 1, 2018.
- "Computational Evaluation of Rotor-Alone Noise", Journal of Aerospace Sciences and Technologies", Vol. 72, No. 3, August 2019.

Conference Publications

- "Computational Evaluation of rotor-alone noise in turbo-fan Engines", International Conference, pp. 1-7, GDTAME 283, ICONSTEM 2016, March 30 & 31, Jeppiaar University, Chennai, India.
- "Effect of Shock Wave Boundary Layer Interaction on Supersonic Combustion in Scramjet Engine", pp. 1-9, A1-012, National Conference-LAMSYS 2016, June 24 & 25, SHAR, ISRO, Sriharikota, India.
- "Aerothermodynamic variations associated with the change of shapes in re-entry vehicles", pp.1-10, N13D098, International Conference, NAFEMS 2016, August 30th and 31st, Bangalore, India.
- "Modifying the onset of turbulence in a low speed subsonic wind tunnel", at International Conference, pp.1-3, Paper no: 572, NSFMP 2016, December 15-17, Motilal Nehru Institute of Technology, Allahabad, India.
- "Comparison study of nozzle design and effect of shock reflection on the ideal nozzle expansion", 44th National Conference on Fluid Mechanics and Fluid Power, pp.1-5, Paper no: 5, FMFP 2017, December 14-16, Amrita Institute, Kollam, Kerala, India.
- "Impact Analysis of Bird-Strike on Critical Components of the Aircraft", National Conference on Aerospace Technology, pp.28-29, Paper Id: NCAT18141, NCAT 2018, September 27 & 28, Hindustan Institute of Technology and Science, Padur, India.

- “Inverted Aerofoils and the Effect of Camber on Ground Force In Formula One Cars”, National Conference on Aerospace Technology, pp.35-36, Paper Id: NCAT18137, NCAT 2018, September 27 & 28, Hindustan Institute of Technology and Science, Padur, India.
- “Computational Investigation of Calibration Characteristics of a Five Hole Probe”, Paper No. 68, CD-ROM Proceedings of the Second National Aero Propulsion Conference, Dec. 17-19, 2018, IIT Kharagpur, West Bengal.
- “Computational investigation on flow dynamics and heat transfer of nanofluid in low Reynolds number under magnetic field”, Paper No. 341, CD-ROM Proceedings of the 48th National Conference on Fluid Mechanics and Fluid Power (FMFP), December 27-29, 2021, BITS Pilani, Pilani Campus, RJ, India.

Patents

- Anti-Inertial Auto Alarming Breaking Systems (Filed and Presented)
- Spacesuit Technologies for Astronaut (Filed and Presented)

Invited Talk

- “Current Trends and Future of Aerospace Technology” in Department of Aerospace Engineering, SRM University, Kattankulathur, Tamil Nadu 603203, on 5th April, 2019.

Professional Membership

- Associate member of 'The Aeronautical Society of India'(AM-7395).
- Life member of Indian Society of National Society of Fluid Mechanics and Fluid Power (NSFMFP Life Membership number: LM660).
- Life Member of ISSE (Indian Society of Systems for Science and Engineering)

Sports

- Represented state levels and county level in cricket
- Represented college volley ball team and table tennis teams
- Squash, Lawn tennis, Football and Basket Ball