

Mithun M G

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OBJECTIVE

DFSS green belt certified mechanical engineering post graduate with +4 years of experience in CFD and related software. Seeking an exigent role in a versatile organization where I can enhance my analytical, logical & communication skill acquired and deliver back towards the growth of organization.

RELEVANT WORK EXPERIENCE

Oct 15 – Ongoing **City University London**

- Role: **Marie-Curie Research Fellow**, Department of Mechanical Engineering & Aeronautics
- Pursuing research in the area of CFD modelling of multiphase flow (cavitation)
- Developing compressible multi-phase solver considering the presence of non-condensable gas in order to study its effect on aviation gear pump performance and cavitation erosion.

Aug 13- Sept 15 **Eaton Corporation (EIEC Pune)**

- Role: CFD engineer, Flow and Thermal
- Pivotal role in **CFD methodology** development for **cavitation prediction** in Aerospace fuel pumps (validated with field data)
- Worked in **Fluid Structural Interaction** in aerospace **rotary valves** to predict internal leakage due to deformations in high pressure applications.
- Experience in CFD analysis of wide range of aero, vehicle, hydraulic and electrical components.
- Through **digital prototyping** and analysis, suggest **design modifications** for qualifying requirements of the components before manufacturing/prototyping.
- Ensure systematic and robust approach of problem solving using **DFSS methodology**.
- Experienced in performing flow and thermal analysis of **pump, turbine, valves**, duct, manifolds etc.
- Area of expertise: **Dynamic meshing, Multi-phase, Cavitation, Turbulent flow, FSI, UDF**

Key Awards and Achievements

- **One U.S patent** and **Nine invention disclosures** filed.
- Won **STEP** award for outstanding performance in **developing new methodology** in predicting rotational speed of a **flow driven turbine**.
- Won **STEP** award for implementing **best practices** for **automating the pre and post processing activity** for a time critical aero valve project which resulted in **50-60% reduction** in turnaround time.
- **DFSS Green Belt** certified.

EDUCATION

Program	Institution	%/CGPA	Year of completion
MS (Mechanical)	Indian Institute of Technology, Madras	9.2/10	2013
BE (Aero-mechanical)	Aeronautical Society of India, New Delhi	65.5/100	2010
Diploma (Tool & Die)	Kerala Govt. Poly Technic College, Calicut	67.35/100	2005
Secondary	Technical High School, Calicut	77.3/100	2002

PAPERS PUBLISHED

International Journals

- Mithun MG, Shaligram Tiwari; "Flow past two tandem square cylinders vibrating transversely in phase", 2014, *Fluid Dyn. Res.* 46 055509

International Conferences

- "Characteristics of Unsteady Flow Past Synchronous Transverse Oscillation of a Square Prism" in IUTAM Symposium on Bluff body flows (blubof 2011), December 2011, IIT Kanpur, India.
- "Numerical Study of Two-dimensional Unsteady Flow Past Transversely Vibrating Square Cylinder" in 9th European Fluid Mechanics Conference, (efmc9), September 2012, Tor Vergata, Rome, Italy.
- "Flow over Two Inline Square Cylinder Vibrating with Phase Shift" in International Conference on Applications of Fluid Engineering (CAFE 2012), September 2012, Greater Noida, India.
- "Effect of Aspect Ratio of an Upstream Elliptic Cylinder on The Wake Characteristics of a Circular Cylinder" in International Conference on Applications of Fluid Engineering (CAFE 2012), September 2012 held at Greater Noida, India.
- "Effect of longitudinal spacing on two tandem square cylinders vibrating transversely at super synchronous frequency" 15th Annual CFD Symposium of CFD Division, Aeronautical Society of India (AeSICFD15), August 2013, IISC, Bangalore, India.

RESEARCH PROJECT

- Project title : "Effect of interference in flow past stationary and transversely oscillating square cylinders in channel"
- Numerical study on flow past different combinations and orientations of stationary and oscillating square cylinders using a commercial software ANSYS ICEM, GAMBIT and FLUENT
- The study brings out the effect of cylinder arrangements and oscillating parameters on aerodynamic forces on the cylinders and lock-in and other wake characteristics.
- The cylinder motions are incorporated using UDF's written in C language.

OTHER PROJECTS

- Worked on a sponsored project by NRB (Naval Research Board) "Numerical Study of Unsteady Wake characteristics for Flow past Single and Multiple Vibrating Bluff Bodies" by developing a **finite difference** based code written in **FORTRAN** (1 year)
- **Designed and manufactured an Injection Mold** for manufacturing "Buzzer Case" as the final year project for Diploma (1 year)

RELEVANT SUBJECT KNOWLEDGE

• Computational Fluid Dynamics
• Flow and Thermal Instability
• Fluid mechanics and Thermodynamics
• Structural Dynamics and Aero-elasticity

• Finite Element Analysis
• Aerodynamics
• Heat Transfer
• Dynamical Systems Stability and Bifurcation

SKILLS

- Simulation skills- FLUENT, PumpLinx
- Meshing skills- ICEM CFD, GAMBIT
- Post Processing- Tecplot, MS-Office
- Programming skills- FORTRAN, MATLAB,
- Designing skills- Pro/E, Catia v5, AutoCAD
- Ansys Workbench, Design Modeler, Minitab

SCHOLASTIC ACHIEVEMENTS

- Secured AIR (All India Rank)-119 (GATE-2010) and AIR-30 (GATE-2011) in XE (Engineering Sciences)
- All India subject topper for Aircraft Structure-II in AMAeSI examination Dec-2010 session.
- All India second topper for Fluid mechanics, Thermodynamics and Strength of Materials in AMAeSI examinations.

POSITIONS OF RESPONSIBILITY

- Team level “Ideas @ Work” co-ordinator at Eaton (2014)
 - Responsible for identifying the challenges in any product design
 - Arrange brainstorming to come up with solutions for the existing challenges
 - Create opportunities for innovations by coordinating with each team members
- Team level “Fun @ Work” co-ordinator at Eaton (2014)
 - Responsible for work life balance of all the team members
 - Organize activities that improve team rapport and relive work stress (eg: team outing, games etc)
- Member of Database Upgradation program of Office of Alumni Affairs 2012-13
 - Rebuild the connection between alumni/alumnus and IITM
- Mechanical branch coordinator for campus placement 2012-13.
 - Help students of the respective department with placement related activities
- Mitr-IIT 2012-13 PG counselor
 - Counseling students who are facing academic-related or personal problems
 - Creating awareness on healthy living and healthy habits

EXTRA-CURRICULAR ACTIVITIES

- Represented district level under-19 Cricket team.
- Represented district level mini Basketball team.
- IIT Madras PG and Hostel cricket team member.

PERSONAL DETAILS

- Date of Birth : 31st October 1986
- Nationality : Indian
- Marital Status : Married
- Lingual Proficiency : English, Hindi, Malayalam, Tamil
- Passport No : K4438255

REFERENCES

Dr. Shaligram Tiwari (Supervisor)
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