



 **Devakumar Thammisetty**

 Trivandrum, Kerala, India

 Scientist, ISRO (9+ years)

 deva.aerospace@gmail.com

 Skype: deva.aerospace

 +91 8301023892

 LinkedIn



## Strengths

- Mathematical modeling, Control, Optimization, Data Science
- Experienced Rocket propulsion engineer (9+ years)
- Excellent analytical & programming aptitude (Python)
- Mechanical and Aerospace Engineer (Minor in Management)

## Education

2018- 2020	<b>Master in Mechanical Engineering, EPFL (present GPA : 5.51/6)</b> École Polytechnique Fédérale de Lausanne, Switzerland <b>Focus:</b> Control & Automation, Minor in Management and Technology <b>Thesis:</b> Development of Multi-phase Optimal Control Software (Automatic Control Laboratory, Thesis Director: Prof. Colin Jones, Grade: 6/6, [MPOPT])
2008 – 2012	<b>Bachelors in Aerospace Engineering, IIT Bombay (GPA : 8.72/10)</b> Indian Institute of Technology Bombay, India <b>Project:</b> Conceptual design of 2-seater solar powered airplane.

## Professional Experience

2012 –till date	<b>Scientist, Indian Space Research Organisation (ISRO), India (9+ years)</b> <b>Focus:</b> Modeling and simulation of Liquid Rocket Engine Performance, System engineering of rocket propulsion systems. <b>Project I: Technical lead, Cryogenic Engine Development (Modeling)</b> <i>Mathematical modeling of engine dynamics, thrust control algorithms, software development in python, data analysis and synthesis, system engineering.</i> <b>Project II: Moon lander thrust control algorithm development (Control)</b> <i>Developed real-time thrust control algorithm for ISRO's Moon lander .</i>
July –Sep'19	<b>Engineering Internship, Asyrl SA, Switzerland (Computer Vision, OpenCV)</b> <b>Skills:</b> OpenCV 4.1, Python programming, Machine Learning, Agile software dev. <i>Developed and tested various vision algorithms for object localization and recognition using OpenCV. Feature identification, large scale in-house databases.</i>
May – July'11	<b>Software developer internship, Fluidyn-India, Bangalore (C++, Qt4)</b> <b>Project:</b> Development of modules for CFD post-processing software in C++

## Projects and Internship Experience

Feb – Jun'19

**Semester project: Interdisciplinary EPFL robotics competition (Team of 3)**

**Skills:** Arduino, Raspberry pi, computer vision (Direction: Prof. Auke Jan Ijspeert).

*Built a mobile robot which autonomously localizes and navigates in a given terrain [Video]. Programmed various vision based algorithms in Raspberry Pi. Implemented Kalman Filtering, State Machine and control with sensor feedback.*

Sep–Dec'19

**Semester project: Embedded Real time optimization of a fuel cell system**

**Skills:** Optimization of constrained nonlinear systems in real time, Quadratic Programming, C++, Model Predictive Control. (Direction: Prof. Colin Jones, LA3)

*Optimizing performance index of a fuel cell system subject to constraints. numerical optimization methods, nonlinear system dynamics, Sequential Quadratic Programming (SQP) along with ADMM based QP solver.*

## Skills

**Technical**

- Nonlinear Optimization, Control, MPC, Computer Vision, System engineering
- Work experience in rocket propulsion, mathematical modeling and simulations
- Machine learning, Data science, Operations management
- Excellent analytical and programming skills

**IT**

- Python – numpy, scipy, pandas, scikit-learn, OpenCV, PyQt4, Django
- MATLAB/Simulink, OpenFOAM, ParaView, Gmsh
- C++, Eigen, CasADi, Qt4
- Data analysis and documentation: Microsoft Excel, Word, Power point, LaTeX
- Version control: git, hg (Mercurial)

**Language**

- English (Fluent), Hindi (Fluent) – Read, Write, Listen and Speak
- French (Beginner) – A1 level course work at EPFL
- Telugu (Mother tongue) - Read, Write, Listen and Speak
- Malayalam (Medium) – Read, Listen & Speak

## Awards

- **Young Engineer Award** by Indian National Academy of Engineering (INAE) [Profile].
- **ISRO Team Excellence Award** for contribution towards maiden launch of GSLV-MkIII rocket.

## Extra-curricular activities

**Sports**

- Table Tennis (Ping-pong), Cricket

**Other**

- Travel, hiking, reading non-fiction

## Personal details

**Citizenship**

- Indian

**Civil Status**

- Married