👤 **Devakumar Thammisetty**

📍 Trivandrum, Kerala, India
💼 Scientist, ISRO (9+ years)
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Strengths

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

🏛 Education

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

💼 Professional Experience

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