

Curriculum vitae



Sri Harsha Pavuluri

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WORK EXPERIENCE

Jan 2016–Present

Team Lead, Astrionics Division

Team SRMSAT, Space Systems Laboratory, SRM University

- Led the Astrionics Division (12 people), while collaborating with the rest of the team.
- Responsibility was to supervise the design of all subsystems in the Astrionics division and integrate them.
- Involved in design of payload equipment (Microwave Radiometer) for the mission
- Spacecraft's preliminary design was completed under my supervision and the design is currently under review at Indian Space Research Organization.
- Involved in recruitment and teaching activities to induce new recruits into the team.

Jan 2016–Present

Communications Engineer

Team SRMSAT, Space Systems Laboratory, SRM University

- Tasked with the design of preliminary configuration of the TTC Subsystem for submission to Indian Space Research Organization.
- Formulated the communication link, performed trade studies on channel coding schemes, synthesized antennas, prepared link budgets, analysed coverage and access in trajectory, and devised a mission sequence for the subsystem.

Jul 2014–Present

Power Engineer

Team SRMSAT, Space Systems Laboratory, SRM University

- Tasked with the design of preliminary configuration of the EPS subsystem for submission to Indian Space Research Organization
- Formulated the system architecture; built simulations to perform (and performed) power consumption analysis in trajectory; designed solar array, battery system, power distribution and conditioning system, and fault detection and protection unit.

May 2016

Summer Intern

Antenna Products and Satellite Communications Division, Electronics Corporation of India Limited, Hyderabad (India)

- Had hands-on experience with several antenna testing equipment, exposure to antenna design and simulation tools, and learned about the architectures and designs of various projects of the division.

May 2015

Summer Intern

Bharat Heavy Electricals Limited, Hyderabad (India)

- Worked on Gas Turbine control systems. Studied the MARK VI gas turbine control system in detail.

EDUCATION AND TRAINING

Curriculum vitae

Jul 2013–Present B.Tech, Electronics and Communication Engineering

SRM University, Kattankulathur (India)

Courses include:

Electronic Devices and Circuits, Control Engineering, Digital Signal Processing, Digital Communications, Antenna and Wave Propagation, Satellite Communications, Microprocessors and Microcontrollers, Computer Networks, and Wireless Communications

Jun 2011–May 2013 HSC

Sri Chaitanya Junior College, Guntur (India)

Subjects Include:

Physics, Mathematics, Chemistry

Jun 2008–May 2011 SSC

Bhashyam Blooms, Guntur (India)

OTHER INFORMATION

Projects

- **SRMSAT - 2: Mission to the Moon** - University class small-spacecraft technology demonstration mission. Uses non-conventional fuel-efficient transfer trajectory
- **Cherenkov: Fast Charging Power Storage** - Freshman year project, Cherenkov used `supercapacitors for energy storage. Charges in less than 10 seconds and powers a 6 LED flashlight for 2 hours.
- **Satpoint: Satellite Pointer and Tracker** - Minor Project, Satpoint calculates current azimuth and elevation of a satellite whose TLE is fed is to the system and drives motors to point at it.
- **LSPDA: Lunar Surface Potential and Dust Analyser** - Final year project, LSPDA is a lunar payload equipment that aims to investigate the effects of lunar magnetotail crossings.

Publications

Namdeo, S., Barad, K., Mody, A.A., **Pavuluri, S.H.**, Ratheesh A., (2016). **Lunar Brightness Temperature Models and Radiometer Design for Small Satellites**. In AIAA SciTech 2017 (Submitted for publication).

Pavuluri, S. H. Preliminary Design of the Electrical Power System of SRMSAT - 2. In Acta Astronautica, Elsevier. (Under review).

Pavuluri, S. H., & Bhate, H. B. (2016). Telemetry, Tracking and Command Subsystem of SRMSAT-2. In AIAA SPACE 2016 (p. 5240).

Pavuluri, S. H. (2016). Electrical Power System of SRMSAT -2. In 54th AIAA Aerospace Sciences Meeting, American Institute of Aeronautics and Astronautics, Reston, VA (p. 1467).

Ratheesh, A., Barad, K., Naik, K., **Pavuluri, S. H.**, Singha, A., Bhate, H., ... & Shrivastava, P. (2016). **SRMSAT: A Feasibility Study on Small Satellite Mission to Moon**. In 54th AIAA Aerospace Sciences Meeting, American Institute of Aeronautics and Astronautics, Reston, VA (p. 1467)

MOOCs

- MITx - 6.002x: Circuits and Electronics
- BerkeleyX - EE40LX: Electronic Interfaces
- MITx - 24.118x: Paradox and Infinity
- MITx - 6.302.0x: Control System Design – A First Look

Honours and awards

- Merit Scholarship (Based on performance in entrance exam) - 50% of the fee (20000 INR), Sri Chaitanya Junior College, Guntur, India (2011).

Curriculum vitae

- First class with distinction in Trinity Graded Examinations in Spoken English - Grade 8 (2010).
- Gold Medal in Inter-School Science Olympiad (2006).
- Gold Medal in Inter-School quiz competition (2006).

Memberships Student Member, American Institute of Aeronautics and Astronautics (AIAA)

PERSONAL SKILLS

Mother tongue(s) Telugu

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
Hindi	A2	B1	A2	A2	A2
German	A1	A1	A1	A1	A1

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages

Communication skills Good communication skills gained from my experience at Space Systems Laboratory, which involved communication with people from different backgrounds; I also had to contact various companies to inquire about their products which were of interest to the team.

Organisational / managerial skills

- Leadership (currently responsible for a team of 12)
- Good organisational skills gained from leading astrionics division at Team SRMSAT.

Technical skills

- Electronics
- Communication Systems
- Systems Tool Kit
- MATLAB
- HFSS
- Eagle
- Veriog
- Python (Basic)