

SUMMARY

Creative, entrepreneurial and self-motivated with a strong background in space dynamics, data analysis, synthetic imagery, physics simulations, space systems and payload integration. I, Shen Ge, am an US Citizen seeking to bring unique value to the aerospace industry through my set of technical skills and knowledge base.

SKILLS:

SPACE DYNAMICS: Space dynamics, Guidance navigation & control (GNC), data simulations, space physics
SOFTWARE: Python, MATLAB, batch and bash scripts, C++, Linux, Microsoft Office, ESA PANGU
OTHER: Data analysis, synthetic imagery and visualization, NASA SPICE, NASA PDS, numerical methods, payload integration, space systems, proposals

WORK EXPERIENCE**Iron Ring Technologies, LLC. Houston, TX / Integration & GNC Engineer** *2019 – Present*

- Extract and analyze planetary imaging data (LROC, Kaguya, etc.) with SPICE tools and Python to determine optimal landing sites, crater analysis, elevation and albedo data and other required analysis.
- Conduct GNC analysis on coordinate frames and trajectories for Intuitive Machine’s lunar mission.
- Generate synthetic imagery of the lunar surface for optical navigation with Planet and Asteroid Natural Science Generation Utility (PANGU).

GeoControl Systems Inc. Houston, TX / ISS Payload Integration Manager *2018 – 2019*

- Provide technical expertise to research integration office boards and panels, ISS boards and panels, and working groups.
- Assist payload developers in providing payload data sets, documentation and required resources.
- Manage schedules and coordinate activities of the integration team and subject matter experts with the payload developers.
- Modeling the ADCS system in Python within a BeagleBone Black connected to Tyvak’s Intrepid platform as the ADCS lead of the RadSat project, a CubeSat project to measure plasma fields in the upper atmosphere.

Independent Contractor Houston, TX *2016 – 2018*

- Worked on developing a platform in Python an aerospace library encompassing orbital mechanics, propulsion and ADCS.
- Research satellite market and performed opportunity cost analysis in Excel for space company LEO Launcher Logistics.

Triton Launch Systems Houston, TX / Project Engineer *2014*

- Performed technical studies on small satellite payload integration into the HTOL vehicle in FORTRAN, which identified optimal ranges of satellite masses and altitudes / inclinations required for associated launch cost.

ECAPS LLC College Station, TX / Co-founder & Project Manager *2012 – 2014*

- Led a team of eleven on the \$1M Asteroid Mitigation Technology (AMT) project to analyze altering the method in albedo alteration of an asteroid to change its trajectory via Yarkovsky effect; modeled spacecraft’s albedo payload in MATLAB.
- Spearheaded research and physics modeling in MATLAB for SMOTESS, a space telescope to scan for near earth asteroids (NEA); formulated NEA distribution model and telescope FOVs to characterize asteroid distributions detectable in 5 years.
- Researched asteroid resource exploitation, simulated trajectories and developed a new economic models (an improved net present value equation) in MATLAB resulting in two conference papers.

Excalibur Almaz Houston, TX / Research Intern *2012*

- Designed cislunar spacecraft electrical power and ECLSS systems in Excel which was later adopted by the company.
- Simulated drag and heating of tethers for space reentry vehicles in MATLAB, which improved spacecraft performance.

Independent Contractor Houston, TX *2011 – 2012*

- Led a team of four to compete in the 2011 European Satellite Navigation (ESNC) to use the European Galileo satellite constellation, which won first stage for two concepts – a water sensor and a travel app called HitchOn.
- Formulated strategy for future space exploration by leading a team of eight to write the grant “A Pipeline for Creating Future Cosmic Explorers” for DARPA-funded 100 Year Starship initiative.

EDUCATION

Engineer-in-Training Certificate (EIT)	July 10, 2018 – Present
Project Management Professional Certificate (PMP)	June 13, 2017 – June 12, 2020
Lean Six Sigma Green Belt Certificate (CSSGB)	December 1, 2016 – Present
TEXAS A&M UNIVERSITY, MS Aerospace Eng., College Station, TX	January 2009-August 2011
GEORGIA INSTITUTE OF TECHNOLOGY, BS Aerospace Eng., Atlanta, GA	August 2004-December 2008
GEORGIA INSTITUTE OF TECHNOLOGY, BS Physics, Atlanta, GA	August 2004-December 2008

AFFILIATIONS

Boeing Toastmasters (Secretary), Action One Media (DJ), Project Management Institute (PMI), Vox Culture (Volunteer)