Wanglim Song

Mobile: (540) 757 3549	Email: wlsong@vt.edu	&	wanglim0812@gmail.com	URL:	www	.linkedin.com/in/wanglim	<u>i-song/</u>
Virginia Tec	ch (Class of 2027)		B.S. in Aerospace Engineering	g		GPA: 3.97/4.00	

Skills

.....

3D parametric modeling

Autodesk Inventor & SolidWorks

Finite Element Analysis

ANSYS Mechanical & NASTRAN

Rocket Propulsion

- Experience in developing a pressure-fed cycle liquid propellant rocket engine and test facility
- Experience in heat analysis of film, regenerative, and ablative cooling of rocket thrust chambers
- Experience in developing an augmented spark ignitor (ASI) for commercial space launch vehicles

Experience

2023 (Feb 2023 – Apr 2023)

- Perigee Aerospace
 - Internship
 - Participated in the development of the Augmented Spark Ignitor (ASI) for 3 ton-class GG cycle methalox liquid rocket engine

.....

- Designed and analyzed aerospace components with Ansys Mechanical & Autodesk Inventor
- **2024** (Sep 2024 Present)

Orbital Launch Vehicle Team at Virginia Tech

Propulsion Team Member/ Experience with Ansys Mechanical & SolidWorks

Research

Design of a Low-Cost CubeSat Propulsion System Featuring a Self-Pressurizing Pressurant Pressurization (SPPP) System

Designed a monopropellant propulsion system that utilizes a unique propellant pressurization method for CubeSats

 applications. Utilizes high vapor pressure, self-pressurizing liquid as a pressurant for the propellant pressurization system,
 which eliminates the need for a separate pressurant tank and pressure controlling devices. (2024)

Development of Autonomous Propellant Harvesting Hopper

Designed and built a rocket propelled hopper that utilizes a novel propulsion method of processing surface ice as a
propellant. APHH directly collects ice, filters out impurities, and generates thrust through four 20N thrust cold gas thrusters.
The adaptation of this novel propulsion method enables APHH to explore the surface of extraterrestrial bodies whose crusts
are composed of ice. High school senior year project. (2022)

Design of a 500N GOX Ethanol Bi-Propellant Rocket Engine

- Designed a small thrust & pintle injector & ablative cooled rocket engine using ethanol and gaseous oxygen as a propellant. Highschool senior year project. (2022)

Conceptual Design of a LOX/LCH4 Suborbital Space Launch Vehicle (KSPE 2023-1103)

Awards & Honors

2021 Hanwha Science Challenge

- 3rd Place
- Developed a novel self-sustaining air purification system through the augmentation of a steam turbine

2022 Korea High School Physics Contest

- 3rd Place
- Developed a pogo shoes for a human Moon exploration application

2024 Virginia Tech President's List Spring 2024