

Noah Haeske

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Education

University of Florida (UF) - Gainesville, FL
Bachelor of Science in Mechanical Engineering

May 2029
GPA: 4.00/4.00

Skills

Software: Fusion 360, SolidWorks, Altium, Python, Ansys Mechanical, MATLAB, Matplotlib, ImageJ, COMSOL

Fabrication: Soft lithography, mask design, fluorescence microscopy, mill/lathe, DAQ instrumentation

Experience

Flight Vehicles Engineer - Florida Rocket Lab **Aug 2025 - Present**

- Designed a vertical integration and cold flow testing platform capturing pressure, thermal data, and vibrations from 12 individual sensors
- Developed custom Python data pipeline to synchronize and process multi-channel sensor data from cold flow tests into clean, actionable analytics dashboards
- Reduced bracket mass by 40% while maintaining a FoS > 1.5 utilizing Ansys Mechanical analysis
- Continuing involvement as responsible engineer of payload systems for the 26-27 vehicle, leading a team of 4 engineers

Research Intern - Güder Research Group, Imperial College London **June 2026 - Aug 2026**

- Engineered a fully passive, single-use Point-of-Care diagnostic cassette integrating DNA amplification and lateral flow readout, eliminating the need for laboratory infrastructure
- Evaluated and characterized multiple low-cost heating strategies, including nichrome microheating circuits and exothermic chemical systems (MgCl₂, CaO, iron oxidation), to maintain a 37–42°C reaction zone for 20-minute DNA amplification
- Designed a novel microfluidic valve mechanism utilizing polymer swelling and rupturing allowing for passive timing and delivery of amplicon to the lateral flow assay strip

Assistant Researcher - Interdisciplinary Microsystems Group **Aug 2025 - Present**

- Investigated Lateral Filter Array Microfluidic devices as a platform for isolating rare circulating tumor cells from blood for cancer diagnostics
- Simulated the microfilters in COMSOL, developing a model relating channel size and flow rate to capture efficiency
- Fabricated and tested 200+ microfluidic devices, validating the model with clinical samples from UF Health Shands Hospital
- Designed a novel low cost platform for sequential reagent release using microfluidic ball valves, integrating chemical lysis, RNA enrichment, and nucleic acid amplification for multiplexed detection of HIV, Dengue, and Zika virus

Leadership

Internal Ambassador - Freshman Leadership Engineering Group (FLEG) **Aug 2025 - Present**

- Spearheaded internal event programming for 70+ members, driving average attendance from 50% to over 90% through improved communication and engaging content
- Managed end-to-end event logistics including scheduling, resource allocation, and coordination across committee leads
- Continuing involvement as a member of the Selections and Legacy Committees, contributing to recruitment and organizational legacy initiatives

Wilderness Trip Leader - Outdoor Adventure Recreation **Aug 2025 - Present**

- Backpacked across the backcountry of Alaska with the National Outdoor Leadership school for 90 days to become certified in wilderness risk management and emergency medicine
- Planned and led free weekend trips for UF students exploring the Appalachian trail from Georgia to Virginia

Work Experience

Technical Diver - Sun Divers, Roatan **May 2025 - Aug 2025**

- Worked underwater to support a team of researchers documenting and monitoring coral reefs
- Obtained specialized training and certification to operate up to 270 feet below the surface for extended intervals
- Utilized underwater photography equipment as well as coring devices to take coral samples