

KEVIN GRUETTERS

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EDUCATION

Embry-Riddle Aeronautical University
B.S. Aerospace Engineering, Astronautics Track

Daytona Beach, FL
Expected May 2030

PROJECTS

Liquid Bipropellant Rocket Engine — LOX / Jet A

- Developed a preliminary 1,500 lbf LOX/Jet A engine design targeting 600 psi chamber pressure, including a variable-area pintle injector concept for throttling.
- Evaluated propellant selection and oxidizer-to-fuel mixture ratio through trade studies and sizing calculations for the injector as well as propellant flow rates.

Spacer — AI Operations Platform

Software Development

- Co-founded an AI operations platform integrating source-cited, permission-aware retrieval and operational issue-tracking workflows.
- Developed production services with React/Vite, Express, PostgreSQL/pgvector, pg-boss, Better Auth, and LLM/RAG retrieval.
- Collaborating with a ~30-person property-management design partner on a read-only pilot linking operational data to Google Workspace source documents.

Axis — Native iOS Fitness App

iOS Development

- Building a Swift/SwiftUI app for gym-specific workout planning, interactive equipment-location maps, and workout progress tracking.
- Established GitHub branch protection, pull-request review, and issue-driven collaboration for a distributed three-person team.

Large-Scale Aerospace Additive Manufacturing

Independent Aerospace Prototyping

- Built and iterated 50+ FDM-printed aerospace models, including an 8-ft (2.4 m) rocket replica; planned part segmentation, interfaces, tolerances, and assembly sequencing.
- Improved fabrication reliability through printer calibration, slicer tuning, print planning, and repeated failure analysis.

Drone FPV Camera Gimbal Assembly

- Designed a compact, 3D-printable FPV camera gimbal targeting a +90° to -70° tilt range; modeled its components as a parametric assembly in Autodesk Inventor.
- Prioritized serviceability and modularity, enabling straightforward component replacement, adjustment, and iterative redesign.

INDUSTRY EXPERIENCE

Rheinmetall Aviation Services GmbH

Process Engineering Intern | F-35A Program

- Optimized manufacturing work instructions and organized production/logistics workstations to 6S standards for F-35A center-fuselage production.
- Supported process implementation, repair planning, FOD prevention, production control, quality inspection, and ERP-based workflows.

Weeze, Germany

Jun – Jul 2026

Smurfit Kappa GmbH

Operations & Data Intern

- Rotated through IT, sales controlling, planning, production, and sales; supported data analysis, reporting, cutting lists, and computer configuration.

Düsseldorf / Brühl, Germany

Jun 2023

ENGINEERING TEAMS

Baja SAE | Brakes & Steering

- Own brake-light fixture design; presented a brake-pedal concept at preliminary design review and evaluated pedal loads using CAD and ANSYS.

Aug 2026 – Present

Experimental Rocket Propulsion Lab | Fluids & Propulsion

- Responsible for preliminary design of launch-rail attachment hardware for a student-built rocket.

Aug 2026 – Present

TECHNICAL SKILLS

CAD & Analysis: SolidWorks, CATIA V5, Autodesk Inventor, Fusion 360, parametric cad modelling, ANSYS Mechanical

Manufacturing: FDM 3D printing, rapid prototyping, mechanical assembly, machining fundamentals

Software & AI: Python, TypeScript, JavaScript, Swift/SwiftUI, React, Docker, Git/GitHub, PostgreSQL, LLM/RAG

Process Engineering: Lean/6S, FOD prevention, work instructions, production workflows, ERP systems

Languages: German (native), English (fluent)

LEADERSHIP & HONORS

Founder, Coding Club | Cologne International School

- Founded and led weekly programming sessions for 12 students through hands-on coding projects.

2024 – 2025

Honors: Best Delegate — Stuttgart Model UN (international) and Neuss Model UN (national); Excellence Scholarship recipient.