

# Max Jonathan Maerklin

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## Education

**Exchange semester: The Cooper Union for the Advancement of Science and Art**, New York, NY

Department: Mechanical Engineering

08/25 – 12/25

GPA: 3.61/ 4.00

Awarded Baden-Wuerttemberg Scholarship (competitive scholarship for international exchanges.)

**Bachelor of Engineering: Karlsruhe University of Applied Sciences**, Karlsruhe, Germany

Major: Mechatronics    Minor: Micro-computer Technology

Anticipated 12/27

GPA: 3.50/ 4.00

Relevant courses: CAD, MATLAB, Object-oriented Programing (C++), Material Science, Dynamics, Control Systems, Sensor Technology, Actuators and Electric Drives

**Evanston Township High School**, Evanston, IL

Highschool Diploma

08/19 – 05/23

GPA: 3.59/ 4.00

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## Projects

**Cooper Satellite Launch Initiative Attitude Control**, The Cooper Union, New York, NY

08/25 – 12/25

- Implemented IMU data acquisition using an MPU-6050 sensor and Arduino, including calibration and real-time data logging.
  - Integrated IMU measurements with existing TRIAD method data using an Extended Kalman Filter (EKF) to accurately and quickly determine spacecraft attitude.
  - Redesigned IMU and TRIAD circuitry to operate from a single Raspberry Pi and minimize volume.
  - Designed and fabricated a scale 1U CubeSat prototype. Accommodating for existing attitude determination hardware as well as an onboard power supply for future rotational testing.
  - Prepared and submitted a NASA Space Grant proposal (New York NASA Space Grant Consortium) to support sourcing of space rated parts.
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## Work Experience

**Aerospace Engineering internship**, Elevate Systems, San Antonio, TX

01/26 – 03/26

- Developed 3D CAD models of the B-52 Dull Level Control Valve Cup in SolidWorks, translating legacy technical drawings into modern digital designs for engineering analysis and manufacturing.
- Created detailed CAD drawings in *SolidWorks* with ASME GD&T standards to ensure manufacturability for metal additive manufacturing and post-machining operations.
- Collaborated with senior engineers to evaluate and compare costs of traditional forging versus additive.
- Completed the reassembly and functional testing of KC-135 gearboxes, performing tests to characterize torque and play and adjusting as necessary to meet client specific requirements.

**EE 101 Tutor**, Karlsruhe University of Applied Sciences, Karlsruhe, Germany

09/24 – 02/25

- Led biweekly supplementary group lectures for 30 first-year electrical engineering students, deepening their understanding of core electrical engineering concepts.
  - Led weekly small-group discussions to provide individualized support and exam preparation.
  - Developed and graded weekly homework assignments to assess student learning.
  - Communicated regularly with professor to provide feedback on student progress.
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## Skills

**Computer:** SolidWorks, CREO, C++, Python, ANSYS, KiCad, Assembly, MATLAB, Linux, Microsoft suite, Google suite

**Laboratory:** Oscilloscope, Additive manufacturing, Touch probe CMM

**Certificates:** Certified Solid Works Apprentice

**Languages:** English (native), German (native), Spanish (elementary)

**Hobbies:** basketball, jazz piano, cooking, art

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