

LUIS ALFRED BACKHAUS

PROFESSIONAL EXPERIENCE



Luis Backhaus

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AWARDS

VfS Abiturpreis 2019

- excellent performance in the field of economics

Cambridge Advanced C1

- Proof of high level English

Jugend Forscht Competition

- 1st Place Rhein-Main Jugend Forscht

SKILLS

Programming

- C / Java / MATLAB / Terminal / Simulink

CAD / 3D Printing

- Fusion360 / Solidworks / Cura / Ultimaker

Microcontrollers

- Arduino / RaspberryPi / LabVIEW

LANGUAGES

German - Native

English - Native

French - Intermediate

Spanish - Basics

HOBBIES

- Music Production, Audio Engineering
- Sailing, Tennis, Volleyball

Airbus Defence and Space - Working Student

SEPTEMBER 2023 - PRESENT

- ISO 5 working experience with optical spaceflight instruments, working with multi billion dollar equipment
- International experience abroad testing satellite instruments
- Working on European weather and quantum technology satellites
- Working student team lead

Quantum Diamonds - Research Internship

NOVEMBER 2022 - MARCH 2023

- Designed and built a flagship demonstration model showcasing the core quantum effects of Quantum Diamonds' product.
- Created, soldered and tested a fully functional circuit with high voltage parts. Printed core support structures with a resin 3D-printer.

BMW Group - Internship

OCTOBER 2020 - APRIL 2021

- 6 month internship in the vehicle dynamics division. (Synchro / Committee Management). Worked with the leadership division of the vehicle dynamics sector, interconnecting engineering and process management.
- Key takeaways: mapping out processes, identifying bottlenecks, implementing improvements, and monitoring the effectiveness of those changes over time.

Günther Spelsberg GmbH - Internship

AUGUST 2019 - OCTOBER 2019

- Compulsory internship for the admission of the study program Engineering Science at TUM.
- Internship the mechanical engineering division: Acquired skills in molding, forming, machining, joining/separation, assembly, quality control. In addition exposure to lab equipment, safety protocols and research methodologies.

Mercedes Benz Senger GmbH - Internship

JANUARY 2018 - FEBRUARY 2018

- Internship at Mercedes Benz Senger GmbH in the business and sales management team and control of mechatronic automobile equipment.

EDUCATION

Technical University of Munich (TUM) - Aerospace (M. Sc.)

OCTOBER 2024 - PRESENT

- Hybrid (German / English) engineering program, 120 ECTS
- Focus: Aircraft Performance, Human Spaceflight

Technical University of Munich (TUM) - Engineering Science (B. Sc.)

OCTOBER 2020 - OCTOBER 2024

- 210 ECTS interdisciplinary elite engineering program covering various aspects of engineering, natural sciences and computer science, taught bilingual (Englisch / German)
- Bachelor's Thesis at the Professorship of Lunar and Planetary Exploration - GPA: 3.7

British School Manila - Student Exchange

OCTOBER 2016 - NOVEMBER 2016

- Student exchange in Manila / Philippines, with the British School Manila as the first exchange student from Germany. Focus on physics and sports.

Kaiserin-Friedrich-Gymnasium - German Abitur („A - Levels“)

JANUARY 2011 - AUGUST 2019

- G8 bilingual classes in German / English, focused on physics and geography.
- Honored with the VfS-Abiturpreis from the Joachim Herz Stiftung as the only student of class of 2019. Price for outstanding performance + initiative in economics.

VOLUNTEER EXPERIENCE

Rotaract Club Munich - Team Member

NOVEMBER 2024 - PRESENT

- Member of Rotaract Munich, engaging in community service projects and leadership initiatives to drive social impact

WARR - Structural Engineering MOVE-III satellite

MAY 2024 - OCTOBER 2024

- WARR is a Scientific Workgroup for Rocketry and Spaceflight at TUM. Mechanical + Structural Engineering for the MOVE-III satellite.
- Worked 20h/week on the structure of the CubeSat, ensuring a professional enclosure.
- Leveraging experience from Airbus Defence and Space for a seamless workflow + sharing knowledge to student teams. Sharing expertise + gaining insights.

Interact Club Bad Homburg - Team Lead Environment

JANUARY 2018 - AUGUST 2019

- The Interact Club is a service club for young people ages 12 to 18 who want to join together to tackle the issues in their community that they care about.
- Sponsored by Rotary Club Bad Homburg v.d.H and providing opportunities for young people to develop leadership skills while making a positive impact through service projects.
- Key Projects: Garbage Cleanup in the city, sustainable bee homes

PROJECTS

Airbus Fly Your Ideas Competition - Drone Pre Flight Check

JULY 2024

- Winner of the global [Airbus Fly Your Ideas Competition](#) 2024 with the idea „Drone Pre Flight Check“
- Idea: Drones doing a Pre Flight Check before aircraft departure to optically check aircraft for fatigue damage

Jugend Forscht - Intelligent Traffic System

2019

- Winning the 1st Prize of the Rhein-Main Jugend Forscht competition, leveraging my team to the Landesweite competition.
- Idea: Intelligent Traffic System - a system indicating a driver when he finds himself in a "green wave" of traffic lights.

Entrepreneurs of Tomorrow X - Intelligent Gateway

2018

- Finalist in the Entrepreneurs of Tomorrow X business plan competition sponsored by the American-German Business Club.
- Idea: Intelligent Gateway - a gateway at supermarket checkouts where customers can simply walk through, effortlessly scanning all their groceries without the need to unload them onto a conveyor belt.

Technische
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AIRBUS

BMW
GROUP

