Niklas Abraham

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Education

University of Stuttgart   Stuttgart, Germany
Bachelor of Science in **Simulation Technology**
A bachelor program focusing on **excellent academic research** in the areas of *mathematics*, *physics*, *computer science*,
applied and theoretical courses like Calculus 1,2,3,4 numerical mathematics, machine learning and more, elected **focus**
is on **AI** and **bioinformatics**
Projected grade **1.9** and **69** in UK

Scholarship Holder: German Scholarship Foundation   Germany
The Studienstiftung des Deutschen Volkes is Germany's top scholarship foundation, supporting outstanding students with
funding and development programs.
- Two-week summer program in Switzerland, course work: "**Sustainable development in developing countries**",
  part of Program **visiting IFO** and **UN** at **Geneva**, reading and learning about new **economic policies** for developing
  countries
- Three-week **summer school in France (Montpellier**) learning **French**, living in host family and **experiencing**
  culture and new **languages**

School Exchange Australia (3 Months)   Perth, Australia
Christ Church Grammer School   2019

Schönbuch Gymnasium Holzgerlingen   Holzgerlingen, Germany
German High school diploma, graduated with prizes for excellent studies in STEM and economics
German grade 1.0, GPA 4.0   July 2022

Experience

Institute of Biochemistry and Technical Biochemistry Technical Biochemistry   Stuttgart, Germany
Researching student   April 2023 – today
- Conduct research on **TEM-Lactamase** proteins using the **Python Enzyme Engineering Database** (PyEED), a
  specialized Python package for protein analysis.
- Contribute to the **development** of PyEED, which leverages **Neo4J** to create complex **networks** for **proteins**, **DNA**,
  and ontologies.
- **Collaborate** with a research team under **Prof. Jürgen Pleiss** to advance bioinformatics methods for enzyme
  engineering.
- Focus on **integrating graph databases** and **vector embeddings** to enhance bioinformatics tools for protein and
  ontology analysis.
- **Programming LLMs** for vector embeddings in proteins and **ontologies**

Levigo solutions gmbh   Holzerglingen, Germany
Student software engineer   April 2020 – Sept 2021
- **Setting** up docker **Kubernetes** cluster using **Elasticsearch**
- **Programming** custom plugins for various analytics for **docker** containers

Racing Team Fusion (Student competition "f1inschools")   Holzerglingen, Germany
Aerodynamics engineer   Sept 2018 – Sept 2019
- Led vehicle development as the main responsibility in the **largest student engineering competition**, "f1inschools."
- **Coordinated** the engineering team, applying principles of **physics** and **mechanics** while developing testing
  methods and supporting the manufacturing process.

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- Gained expertise in technical mechanics, test planning, **CAD** software design, **Ansys Fluent aerodynamics**, mesh settings, and technical drawing creation.
- Collected 30 000€ in funding from **sponsoring** from various Germany companies
- Developed foundational knowledge of various **manufacturing processes** while fostering effective communication and **teamwork**.
- Achieved **2nd place at the World Championship in Abu Dhabi 2019** (best place for Germany until then)

Leadership & Activities

KiSS e.V. (local sport courses for children)   Weil im Schönbuch, Germany
 Climbing Trainer   July 2022 – today
- Climbing Trainer for children twice a week, two groups à ten children ages 5-10 years old

Member of Faculty committee at University Stuttgart   Stuttgart, Germany
 Faculty member & Simulation Technology committee student speaker   August 2023 – today
- Voted member and **representing** for students of Simulation Technology

Competitions and Activities over years   Germany
- **Competing** at German national **Artificial Intelligence** competition for high school students   May, 2019
- **Junior Science Academy**, course in technology and chemistry   July, 2018
- **Leading** and **founding** roles in high school in **3D-Printing** and Science activities   2014-2022
- Jugend Forscht (Junior **Science competition** in physics**,**) **second place** in **state finals**   2017

Skills & Interests

Technical: python (expert), docker (advanced), java (advanced), c++(advanced), git (expert)

Language: German (native), Polish (native), Englisch (C1), French (B2)

Interests: reading (all non-fiction books I can find, except for Dune 😊), triathlon (next up is a 70.3 Ironman), climbing (indoor with friends), debating with friends about politics and economics

Publications

"*Design and Realization of a Fast Optimal Transform*"; as part of studies, at the Institute of Numerical Mechanics, supervised by Tom Könecke and Lennart Frie; University of Stuttgart; April 2024