Malte Josten

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Work Experience

University of Duisburg-Essen (Duisburg, Germany)   2020/04 - today
Research Assistant, full-time   *2023/06 - today*
- QuantumNRW: Conceptualizing new teaching concepts to introduce school and college students to quantum computing
- FooSH: Developed a Java Spring Boot Framework to connect arbitrary outcome-oriented (AI-driven) prediction models to an existing smart home system by providing necessary abstractions and a sophisticated REST API. This enables users to define goals (outcomes) instead of multiple instructions, to ultimately reach a desired smart home state.
- Continued work on the projects hKI-Chemie and Boarding

Research Assistant, part-time   *2022/10 - 2023/05*
- hKI-Chemie: Developed a virtualization tool in form of a web application using JavaScript, HTML, and CSS to evaluate user behaviour during AI nudging studies.
- Boarding: Project management, development, and administration

Student & Scientific Assistant, part-time   *2020/04 - 2022/09*
- AR-InGo: Developed an augmented reality app for iOS devices using Unity and C#, incorporating 3D-models of scientific instruments and experiments created with Blender.
- Teaching and tutoring students in the courses Computer Architecture, Computer Networks and Communication Systems, Internet Technologies and Web Engineering, and Operating Systems.

Freelance Web Developer (North Rhine-Westphalia, Germany)   2021/12 - today
Freelancer
- Designing, deploying, and maintaining websites using the WordPress ecosystem

Netto Marken-Discount (Mülheim an der Ruhr, Germany)   2017/10 - 2019/10
Temporary Retail Worker, part-time

Krankikom GmbH (Duisburg, Germany)   2015/01 - 2015/02
Internship, full-time
- Web design, project management and administration, and agile software development

Education

University of Duisburg-Essen (Duisburg, Germany)   2017/10 - today
PhD Student (Dr.-Ing.) at the chair for Distributed Systems   *2024/01 - today*
- Research areas: Explainable Security in Distributed Systems, Longevity and Sustainability of Software Systems

Master of Science in Applied Computer Science (Grade: TBD, with honors)   *2021/04 - 2023/12*
- Focus: Distributed, reliable systems
- Thesis: "FooSH: A Framework for outcome-oriented Smart Homes" (Grade: 1.0)

Bachelor of Science in Applied Computer Science (Grade: 1.6)   *2017/10 - 2021/03*
- Thesis: "Development of an augmented reality app for iOS devices to control IoT devices" (Grade: 1.0)

Projects

QuantumNRW   2024/01 - today
Developing a modern and digital education concept for school and university students to introduce them to the world of quantum computing.

Boarding: Automated Attendance Checks   2022/09 - today
Developing a GDPR and Common Criteria (EAL 4+) compliant cross-platform mobile application for automated attendance checks for university-related events, e.g., exams.

hKI-Chemie: Human-centered AI in the chemical industry   2022/06 - today
Researching and developing self-explainable AI solutions to:
- Optimize processes with the help of AI-based process parameter evaluation
- Support employees in identifying process problems at an early stage and selecting suitable solutions
- Availability of machine-learned connections across shifts and personnel changes

AR-InGo: Augmented Reality for Engineering   2020/01 - 2022/04
Developed a modern and digital education concept for school and university students visiting the NanoSchoolLab. The concept provides easily comprehensible 3D models of complex scientific instruments and experiments (including SEM, STM, and solar cells), and uses gamification mechanics to encourage a playful learning experience.