

# Youssef Shoeb

Ph.D. Computer Science Student

Location: Berlin, Germany (Willing to Relocate)

Nationality: U.S Citizen (EU Blue Card Holder)

Email : [youssefomarshoeb@gmail.com](mailto:youssefomarshoeb@gmail.com)

Mobile: +49-15155814707

Website: [youssefshoeb.github.io](https://youssefshoeb.github.io)

## ABOUT

---

- I am a PhD candidate in the Mathematical Modeling of Industrial Life Cycles group at the Technical University of Berlin. My research focuses on the Out-of-Distribution data lifecycle in autonomous perception systems. I am also an AI research engineer at Continental AG, responsible for developing a smart data loop algorithm for error and corner-case detection and continuous development. I am finalizing my PhD and looking for new opportunities to apply AI methods in practical applications.

## EXPERIENCE

---

- **Continental AG** Berlin, Germany  
*AI Research Engineer* *September 2022 - Present*
  - Part of the Research and Advanced Engineering department, where I work on developing and implementing AI-based methods and tools to collect and process data efficiently.
  - Researched and developed methods for Uncertainty Estimation, Out-of-Distribution Detection, Anomaly Segmentation, Object Tracking, and Information Retrieval for an Active Learning use case.
  - Contributed to seven patent applications, four research paper submissions, and an active member of the jbDATA ([justbetterdata.de](https://justbetterdata.de)) consortium project.
- **Fraunhofer FKIE** Bonn, Germany  
*Research Assistant* *November 2020 - July 2022*
  - Part of the Interoperability and Testing group, where I worked on setting up simulation environments and used reinforcement learning methods for optimization and testing.
  - Implementation and evaluation of reinforcement learning algorithms for multi-agent environments.
  - Investigated the use of graph neural networks for creating a digital twin of a dynamic communication network for a reinforcement learning network optimization framework.

## EDUCATION

---

- **Technical University of Berlin** Berlin, Germany  
*Doctor of Science in Computer Science* *2023 – Current*
  - **Research Focus:** Doctoral thesis: “Towards a Deeper Understanding of the Lifecycle of Out-of-Distribution Data in Autonomous Perception Systems”, emphasis on robust detection, analysis, and mitigation and recovery strategies for OoD data in automated-driving applications.
  - **Extra Activities:**
    - \* Supervised multiple Master’s students, guiding research in out-of-distribution detection, anomaly segmentation, and related topics.
    - \* Reviewer for major computer vision and intelligent vehicle conferences; recognized with an *Outstanding Reviewer Award* at BMVC 2024.
- **University of Bonn** Bonn, Germany  
*Master of Science in Computer Science* *October 2019 – June 2022*
  - **Major:** Intelligent Systems.
  - **GPA:** 1,2/5 (German Scale - A).
  - **Awards:** 3rd place Masters thesis award
- **German University in Cairo** Cairo, Egypt  
*Bachelor of Science in Computer Science and Engineering* *September 2015 – October 2019*
  - **GPA:** 1,2/5 (German Scale - A with High Honors).

## OTHER INFO

---

- For more information on publications, projects, and internships, please refer to my website [here](https://youssefshoeb.github.io)