

Curriculum Vitae
Alexander Koenig

Education

- 10/2018 — ongoing **Technical University of Munich**
M.Sc. Robotics, Cognition, Intelligence
Exchange Semester at Tel Aviv University
- 10/2014 — 10/2018 **Technical University of Munich**
B.Sc. Engineering Science
Exchange Semester at Tor Vergata University of Rome
- 09/2012 — 05/2014 **King Edward's School Witley, GB**
International Baccalaureate (Grade: 40 points – top 5%)

Research Experience

- 11/2020 — ongoing **Master Thesis, Harvard Biorobotics Lab, Harvard University**
Autonomous, tactile grasp refinement for a gripping robot by means of deep reinforcement learning, detailed modeling and simulation of the gripper in ROS and Gazebo (Supervisors: Prof. Robert Howe, Prof. Björn Menze)
- 04/2019 — 09/2019 **Research Intern, Mechatronics in Medicine Laboratory, Imperial College London**
Development of a modular ROS software platform for virtual reality assisted teleoperation of a serial manipulator robot via motion tracking systems (Supervisor: Prof. Rodriguez y Baena)
- 04/2018 — 10/2018 **Bachelor Thesis, Chair for Computer Aided Medical Procedures and Augmented Reality, Technical University of Munich**
Visualization of Complex Bone Fractures in Augmented Reality during Reduction Surgery: Development of a HoloLens application and independent implementation of a quantitative, scientific study with four surgeons (Grade: 1.0, Supervisor: Prof. Nassir Navab)

Industry Experience

- 11/2018 — 01/2019 **Working Student, Microstep, Munich**
Software development for usage in sales campaign: web crawler, automated generation of SQL scripts for user registration process
- 03/2017 — 08/2017 **Intern, Technical Integration, BMW Group, Munich**
Evaluation of a rendering software prototype, Extensive testing within the BMW IT-structure, Identification of error patterns and optimization potentials, Support of a scientific study

Skills

Software	Robot Operating System (ROS), Gazebo, Git, Docker, Unity3D, 3DSlicer, L ^A T _E X
Hardware	HoloLens, KUKA iiwa, AprilTags, Oculus Rift, Leap Motion, RGB-D cameras
Programming	C++, Python, C#, Swift, MATLAB, C, GraphQL
Frameworks	PyTorch, Tensorflow 2, Keras, Pyglet, SwiftUI
Languages	German: native, English: proficient, Italian: intermediate, French: beginner