Valentin Chelaru

Curriculum Vitæ

Experience

12/2019–09/2021 **Software Engineer**, *Software Testing*, GWM-AT Research & Development.

- Development of an automated test framework in an HIL environment with CI/CD connection.
- Integration of software and hardware in an HIL environment.
- Analysis of measurement data for troubleshooting.
- Automated testing of the diagnostic protocol of ECUs.
- Developing and setting up a build environment for software development.

Programming languages: Python, C, Capl, Yaml

11/2017–12/2018 **Master thesis**, *UGV Mounted Laserscanning for Automated Navigation and 3D Documentation*, Ruprecht Karl University of Heidelberg.

- Development and design of a LiDAR-based UGV.
- Implementation of a SLAM algorithm to determine the position of the UGV.
- Intergration of different sensors (LiDAR, Odometry, IMU).
- Writing custom ROS nodes for various components.

Programming languages: C++, Python, ROS

12/2016–11/2017 **Research assistant**, Optimization, Robotics & Biomechanics (ORB) Group, Ruprecht Karl University of Heidelberg.

- Development and maintenance of software for automated documentation of historical monuments in 3D.
- Generation of 3D models using an SfM toolchain.
- Code review of monocular and stereo SLAM algorithms.

Programming languages: C++, Python, Qt

04–09/2016 **Advanced internship in robotics**, *Planning and Development of a Game Console*, Ruprecht Karl University of Heidelberg.

- Project planning and development of a game console as part of an internship at the University of Heidelberg.
- Construction of hardware and software based on the ATmega328 microcontroller.

Programming languages: C

05–09/2014 **Bachelor thesis**, *Particle clustering in a turbulent protoplanetary disk*, Ruprecht Karl University of Heidelberg.

- Investigation of the influences of different initial conditions of turbulences on the coagulation behavior in a protoplanetary disk.
- Development of a numerical simulation and subsequent statistical analysis.

Programming languages: C/C++ , CUDA

Education

2015–2018 **Master of Science in Physics**, *Ruprecht Karl University of Heidelberg*.

2011–2015 **Bachelor of Science in Physics**, *Ruprecht Karl University of Heidelberg*.

2001–2010 **Abitur**, *Geschwister-Scholl-Gymnasium Stuttgart*.

Programming and Software Skills

Working knowledge	PYTHON, C++, C, ROS, git, Make/CMake, LaTeX, Bash
Intermediate	OpenCV(C++), CUDA, Mathematica, Matlab, Qt, QML, SQL
Basic knowledge	Visual C#, Objective-C, Swift, Docker, Origin
Tools	Vector Toolchain: Vector CANoe, CANoe.DiVa, CANape, DSpace ControlDesk, Gitlab CI/CD, Microsoft Office, Linux & Windows
Standards	Autosar, ISO 26262, ISO 15765, ISO 14229

Further education

09/2021 **OpenCV: Computer Vision I (C++)**, opencv.org.

01/2018 **Machining course**, Kirchhoff Institute for Physics, Ruprecht Karl University of Heidelberg.

06/2016 **Project Management**, Career Service of the Ruprecht Karl University of Heidelberg.

06/2016 **Fundamentals of business administration**, Career Service of the Ruprecht Karl University of Heidelberg.

07/2016 **„From the idea to the product“**, Start-up management Ruprecht Karl University of Heidelberg.

Languages

German	native speaker
Englisch	full professional proficiency
Romanian	native speaker
French	basic knowledge
Russian	basic knowledge