

Stanislav Arnaudov

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EDUCATION

Master of Science in Informatics

Karlsruhe Institute of Technology

Karlsruhe, Germany

- **Relevant Coursework:** Natural language processing, Image processing, Computer Vision, Machine Learning, Software Engineering, Visualization

Bachelor of Technology in Informatics

Karlsruhe Institute of Technology

Sep 2015 - Sep 2018

Karlsruhe, Germany

- **Relevant Coursework:** Linear Algebra, Algorithms and Data Structures, Operating Systems, Software Engineering, Cognitive Systems, Computer Graphics, Mobile Computing, Databases

SKILLS

Programming Languages

C++, Python, Java, JavaScript\CSS\HTML, Go, SQL, Emacs-Lisp

Technologies

Linux, Git, CMake, make, Robot Operating System (ROS), RabbitMQ, JavaFX/Java-Swing, JUnit, Maven, Frontend (AngularJS, VueJS), Backend (NodeJS, Express, Flask), OpenGL3/4, LaTeX, Emacs Org-mode, UML

EXPERIENCE

Software Engineer\Research Assistant

Fraunhofer IOSB

Sep 2017 - Sep 2020

Karlsruhe Germany

- **Image Processing:** Working with OpenCV, implementing detection and tracking of a laser point.
- **Point Cloud Processing:** Working with PCL, processing and using point-cloud information for automatic visual inspection systems.
- **Software Development:** Developing and extending visual inspection systems for industrial applications.

Teaching Assistant in Linear Algebra

Karlsruhe Institute of Technology

Sep 2016 - Mar 2017

Karlsruhe Germany

- **Responsibilities:** Checking homeworks and giving a class once per week.

Teaching Assistant in Algorithms and Data Structures

Karlsruhe Institute of Technology

Apr 2017 - Jul 2017

Karlsruhe Germany

- **Responsibilities:** Checking homeworks and giving a class once per week.

Volunteer in Conference Organisation

Karlsruhe Institute of Technology

Jul 2018

Karlsruhe Germany

- **Responsibilities:** Helping with the organization of the [EGSR 2018](#) computer graphics conference.

PROJECTS

• Practical Course in Scientific Research:

[Towards Bringing Together Numerical Methods for Partial Differential Equation and Deep Neural Networks](#)

- Developing a personal research project.
- Investigating the current State-of-the-Art approaches.
- Developing a concrete research proposal.
- Conducting the actual project, performing experiments, summarizing results and drawing conclusions.
- Writing a paper that illustrates the results of the project.

• Bachelor Thesis: [Creating and Evaluating Stochastic Regression Models on the Basis of Heterogeneous Sensor Networks for Air Pollution](#)

- Implementing stochastic regression models with Tensorflow, Edward and GPFlow.
- Evaluating stochastic regression models on the basis of proper scoring rules

- Writing out a thesis and presenting the collected results.
- **Practical Course in Software Engineering:** NGram++
 - Developing a single page application for analyzing and visualizing time series data.
 - Designing and implementing the architecture of the application.
 - Working in a team of 5 people.
- **Practical Course in Applied Geometry:** C++ Geometry Library
 - Modeling, analysis, reconstruction and simulation of geometric data.
 - Extending a library by analyzing and implementing algorithms for B-splines, parallel curves, tensors surfaces and curvature visualization.
- **Course Project:** [Smart Homeworks](#) – single page application for helping with the organization of homework assignments.
- **Personal Project:** [Alisp](#) – a general purpose programming language based on a Emacs Lisp.
- **Personal Project:** [Anything](#) – a 3d game engine written from scratch in C++ using OpenGL4.
- **Personal Project:** [CodeManager](#) – a CLI utility for managing git repositories and compiling and installing software packages.
- **Personal Project:** [Rabbitholer](#) – a CLI tool for interacting with AMPQ server.
- **Personal Project:** [CTGraph](#) – a small C++17 project of a graph library fully usable in a *constexpr* context.
- **Co-Maintainer of an Emacs package:** [Neotree](#) – tree file browser for Emacs.
 - Fixing bugs, implementing new features and helping with issues on the GitHub repository.

ADDITIONAL EXPERIENCE & ACHIEVEMENTS

- Spoken languages: German, English, Bulgarian
- Co-author of a conference paper based on my bachelor thesis – Stochastic Regression Models for Improving Data Quality, Calibration and Interpolation of Air Pollution Data from Distributed Sensor Networks of Low-Quality Sensors ([Researchgate Item](#)).
- Part of a team that ranked **second** in the ([Code-2-Cloud Hackathon](#)), organized by Merck and Accenture (8.07.2019 - 13.07.2019 in in Kronberg\Darmstadt).
- Doing Open Source as a hobby by fixing bugs and implementing features in different projects on [GitHub](#).
- Author of several small Emacs packages.