Stanislav Arnaudov

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Education

Master of Science in Informatics — Expected Sep 2021
Karlsruhe Institute of Technology — *Karlsruhe, Germany*

- **Relevant Coursework**: Image processing, Computer Vision, Machine Learning, Software Engineering
- **Practical Courses**: Practice in Research

Bachelor of Technology in Informatics — Sep 2015 - Sep 2018
Karlsruhe Institute of Technology — *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), LaTeX, Emacs Org-mode, UML

Software Libraries

PyTorch, TensorFlow, Keras, Scikit-Learn, Numpy, Pandas, PyTorch, OpenCV, PCL (Point Cloud Library), OpenNI

Experience

Software Engineer\Research Assistant — Sep 2017 - Present
Fraunhofer IOSB — *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 — Sep 2016 - Mar 2017
Karlsruhe Institute of Technology — *Karlsruhe Germany*

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

Teaching Assistant in Algorithms and Data Structures — Apr 2017 - Jul 2017
Karlsruhe Institute of Technology — *Karlsruhe Germany*

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

Volunteer — Jul 2018
Karlsruhe Institute of Technology — *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 or 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.
  - Written in VueJS.
- **Personal Project**: Alisp
  - A general purpose programming language based on a Lisp
  - Written in C++ and currently has around 12 000 lines of code.
- **Co-Maintainer of an Emacs package**: Neotree
  - Neotree - tree file browser for Emacs.
  - Fixing bugs, implementing new features and helping with issues on the GitHub repository.

Additional Experience & Achievements

- 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.
- Spoken languages: German, English, Bulgarian