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

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), OpenGL3/4, LaTeX, Emacs Org-mode, UML

EXPERIENCE

Software Engineer\Research Assistant   Sep 2017 - Sep 2020
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 per 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 per 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 25 000 lines of code.
- **Personal Project**: [Anything](#)
  - A 3d game engine written from scratch in C++ using OpenGL4.
- **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

- 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.