Stanislav Arnaudov

stanislav.arn@gmail.com | LinkedIn: Arnaudov |
Github: Arnaudov | Website: stanislavts.com

EDUCATION

Master of Science in Informatics [Not finished]   Sep 2018 - Sep 2015 - Sep 2020
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   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

Primary Focus

Computer graphics, Real-time 3D rendering, Game development
Performance oriented software, Low-level Optimization

Programming Languages

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

Technologies

DirectX11/12, Vulkan, Metal, PS4/PS5, XBox, Nintendo Switch, OpenGL
Unreal Engine 4/5, Unity
Frontend (AngularJS, VueJS), Backend (NodeJS, Express, Flask)
Linux, Git, CMake, MSBuild, Visual Studio

EXPERIENCE

Advanced Graphics\Rendering Engineer   Nov 2020 - 2023
Coherent Labs   *Sofia, Bulgaria*

- ○ **Rendering**: Responsible for devloping and maintaining the core rendering library of the company's product
- ○ **R&D**: Responsible for reasearching and devloping new features
- ○ **Integration**: Responsible for integrating new features with Unreal Engine 4 and Unity

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
Karlsruher 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
Karlsruher Institute of Technology   *Karlsruhe Germany*

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

Volunteer in Conference Organisation   Jul 2018
Karlsruher 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.
- **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.

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.