BOSHCHENKO ALINA

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NOTICEABLE PROJECTS

Research paper "Fruits detection and counting"

University of Groningen **March 2019 – Present**

- Purpose: to perform object detection and counting with speed and network optimized. Project includes collecting and labeling data, developing a special tool for data augmentation, designing and setting up a network.
  Technologies: Darknet YOLOv3, R, Python3, tensorflow, LabelIMG

MTDemo software rebuild

University of Groningen **Jan 2019 - May 2019**

- Redesign of cross-platform software package written in C++, which allows interactive display and filtering of 2D/3D volume data sets of different file formats. A concept of max-trees with parallelization was implemented. I belong to the back-end part of the team of 8.
  Technologies: C++17, OpenGL, GTest

Android game "PAPER AIRPLANE"

Hackathon "Enhance your student life", Berlin **April 2019**

- Android game consisting of real-time face detection & recognition, AR component of flying plane and database for the leaderboard.
  Technologies: Tensorflow, ARCore, Developed in Android Studio X Java, Microsoft Azure Cognitive Services, FireBase, Google Geolocation API

Computer graphics projects

University of Groningen **Feb 2019 – Mar 2019**

- Several projects made in OpenGL and C++. Emphasis is placed on 3D models shading, texturing and raytracing. Can be found on Github (ComputerGraphics2019). The most recent projects are OpenGL3 and Raytracer2.
  Technologies: C++, OpenGL

Multiplayer server game in Java "ASTEROIDS"

University of Groningen **Sept 2018 – Nov 2018**

- Extension of a 2D game by adding multiplayer mode and improvements to the design. Functionality was added on the basis of UDP with datagram socket. Single player mode game runs normally with the score increased every time tick. Top scores are placed on the leaderboard
  Graded as one of the top-3 best projects among all the teams (approx. 60).
  Technologies: Java, MySQL

Web API (RESTful) for the USA airport database

University of Groningen **Feb 2019 – March 2019**

- Website provides access to all airports and US airlines, statistics, user reviews and ratings. Both back-end and front-end were developed from scratch.
  Technologies: PHP Laravel, CSS, HTML, Bootstrap, Javascript, MySQL.

ACHIEVEMENTS

Winner of the regional round, top-3 of the final round of the all-Russian team engineering competition NTI, Russia 2017

The bot in Python was developed to manage energy flow efficiently for random combinations of consumers. Included mathematical strategy part, based on regression and process modeling.

Finalist, CopenHacks2019, Denmark

Developed an Android app for real-time object detection and translation to different languages with voice dubbing. Technologies: Tensorflow, Microsoft Azure, Google translation API, Java, Python.

EDUCATION

University of Groningen

BSc Computing Science exchange student

September 2018 – July 2019

- **Relevant courses:** Advanced algorithms and data structures, Neural Networks for AI, Computer Graphics, Statistics, Advanced object oriented programming, Software engineering, Web engineering, Problem analysis and software design, GPA: 7.3/10

Saint Petersburg State University

BS Applied Mathematics and Information Science

September 2017 – present

- **Relevant courses:** Mathematical analysis, Linear algebra and number theory, Discrete analysis, Informatics, Topology, GPA: 4.75/5

WORKING EXPERIENCE

TEACHING ASSISTANT

Introduction to Information Systems

University of Groningen, Netherlands

Responsibilities: conducting a lab for 20+ students every week explaining the material of previous assignments and answering questions; grading approximately 10 assignments every week and answering relevant questions by e-mail.

TUTOR

Artificial intelligence 1, Algorithms and data sturctures in C, Linear algebra

University of Groningen, Netherlands

Responsibilities: individual lessons for students, explaining both the theoretical material and its implementation.

VOLUNTEERING

Member of event organizing staff of the faculty of Mathematics and Mechanics in Saint Petersburg State University

SKILLS

Programming Languages:

C++, Java:	**major**
C, SQL, R, Python:	**good**
Haskell, PHP:	**intermediate**

Major technologies: OpenGL, Unity, TensorFlow, PyTorch, Laravel, HTML/CSS, Adobe Photoshop, Shiny App, Git
Languages: Russian (Native), English (Advanced, TOEFL 100), Dutch (Basic), German (Basic)