

# VLADISLAV KURENKOV

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## EDUCATION

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**Innopolis University** Aug 2015 - Aug 2019  
Bachelor of Science in Computer Science *GPA: 3.56*  
Major: Data Analysis  
Thesis: Task-Oriented Language Grounding for Executing the Linguistic Instructions

## RESEARCH EXPERIENCE

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**Mechatronics, Control and Prototyping Lab (Innopolis University)** Jul 2019 - Present  
*Junior Research Engineer* *Innopolis, Russia*

- Designed an algorithm for an utilization of hindsight information by parameter-space search algorithms (Evolutionary Strategies, Cross-Entropy Method, Augmented Random Search, etc.) based on multiple importance sampling technique
- Conducted experiments with the application of reinforcement learning to the tensegrity hopper control problem using parameter space search algorithms and domain randomization
- Designed and developed a software module for the modeling, simulation, and control of tensegrity robots
- Designed and implemented a framework that provides a unified interface for speech recognition, synthesis and semantic parsing of Russian language

**Deep Learning Lab (VK)** Aug 2018 - Oct 2018  
*Intern Research Engineer* *Saint Petersburg, Russia*

- Assisted in enhancements of a technical support system, namely
  - Benchmarked Deep Semantic Similarity Model against classical similarity metrics for querying FAQ pages
  - Conducted multiple experiments to filter out open-domain or troll questions using deep learning based classifiers
  - Designed and implemented a system to generate relevant keywords for FAQ pages using deep learning based classifiers

**Compilers Lab (Samsung R&D)** Jun 2017 - Aug 2017  
*Intern Research Engineer* *Moscow, Russia*

- Benchmarked various Cross-Project Defect Prediction methods based on Decision Trees and integrated them into a private code-quality platform

## PUBLICATIONS

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**Learning Stabilizing Control Policies for a Tensegrity Hopper with Augmented Random Search**  
*Vladislav Kurenkov, Hany Hamed, Sergei Savin* *IEEE ICIEAM, 2020*

**Mathematical Modelling of Tensegrity Robots with Rigid Rods**  
*Sergei Savin, Lyudmila Vorochayeva, Vladislav Kurenkov* *Computer Research and Modeling, 2020*

**Task-Oriented Language Grounding for Language Input with Multiple Sub-Goals of Non-Linear Order**  
*Vladislav Kurenkov, Bulat Maksudov, Adil Khan* *EEML, 2020*

## TEACHING EXPERIENCE

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### Teaching Assistant

*Behavioural and Cognitive Robotics*

Innopolis University

*Spring 2020*

- Containerized the course materials, answered questions, advised on research projects

## ACHIEVEMENTS

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**Ranked Top 1% (19/2187)** in International Data Analysis Olympiad, 2019

**Ranked Top 2% (24/1567)** in International Data Analysis Olympiad, 2018

## SELECTED REPOSITORIES

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### Task-Oriented Language Grounding for Multi-Goal Instructions

*github.com/vkurenkov/language-grounding-multigoal*

- Implemented Multi-Task Deep Q-Learning algorithm and its extensions (DQN, DDQN, PER, Gated-Attention) for a language grounding problem

### Guided Evolutionary Strategies for Locomotion Environments

*github.com/vkurenkov/bcr-project*

- Implemented the Open-ES and Guided-ES from scratch using PyTorch and conducted multiple experiments on MuJoCo Locomotion Tasks

### Cross-Entropy Method In Haskell

*github.com/vkurenkov/cem-tetris*

- Implemented the Cross-Entropy Method to solve the original Tetris game in Haskell

### Imitation Learning for a Real-Time Online Game

*github.com/vkurenkov/haxball-chameleon*

- Implemented the Behavioral Clonning based on Gradient Boosting for a real-time soccer resembling online game

## EXTRA ACTIVITIES

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**IEEE Conference "Nonlinearity, Information and Robotics"**

*Publication Chair*

December, 2020

**Winter School on Machine Learning in Robotics**

*Member of an Organizing Committee*

December, 2020

**3rd BRICS Conference on Mathematics**

*Volunteer*

July, 2019

**IT Nights**

*Member of a Program Committee*

April, 2019