Rudenko Varvara

Student of MIPT

Skills

Data science 1+ yrs.

Data visualisation 4+ yrs.

Machine learning 1+ yrs.

SQL 1+ yrs.

Python 2+ yrs.

C++ 2+ yrs.

C 2+ yrs.

LaTeX 2+ yrs.

English B1

French A2

Biography

Hello, in this resume I want to introduce myself and show the reasons why you can choose me for further work and training. I know how to learn and am willing to spend time developing myself in the areas that interest me. I hope that after graduating from the university, the acquired "knowledge base" will help me get not only a well-paid job, but also an interesting one)))

Additional education

Student — 08/2020

Sirius University of Science and Technology in the program "Modern methods of information theory, optimization and management" with the direction " Sampling, management and optimization"

An educational trip in which the following materials were studied: Monte Carlo methods, lectures on optimization and control theory, and an introduction to reinforcement learning.A personal project has been prepared, under the guidance of Alexey Naumov.

Student — 07/2020 - 09/2020

"White Belt C++", Yandex

Basics of programming in C++, familiarity with the language, to perform basic tasks and projects.

Student — 2021

"SQL for Data Science", University of California, Davis

The course on the theoretical component of the programming language was attended, the classical set of functions necessary for elementary queries in Data Science was studied.

Student — 2021

"Fundamentals of Reinforcement Learning", The Alberta Institute & Alberta Machine Intelligence Institute

The basic theory in the field of Machine learning is studied, with a deepening in reinforcement learning and an analysis of the main tasks and problems. The problem of the "multi-armed bandit" is studied in depth outside the course.

Student — 03/2021 - 05/2021

"Data Analysis in the Industry", Tinkoff

Introduction to the work of data analysts in the company, a conversation with employees. Attended a course of lectures on Data analysis: A B-tests, Logistic regression, Random forest, and so on. Tasks designed to help you understand the topic and deal with the tasks that occur in the routine work of the analyst were completed.

Student — 07/2021 - 08/2021

Sirius University of Science and Technology in the program "Modern methods of information theory, optimization and management" with the direction "Stochastic algorithms and machine learning"

An educational trip with an already familiar laboratory, where work on the article was carried out under the guidance of Alexey Naumov. The team conducted research and proved in practice new approaches to working with UVIP for RL.

Education

09/2019 - 06/2021

Department of Radio Engineering and Cybernetics

Moscow Institute of Physics and Technology

06/2021 - today

Department of Control and Applied Mathematics

Moscow Institute of Physics and Technology

Interests

- Singing
- Gymnastics
- Cooking
- Travel

Contact

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github.com/Rudenshtok

Projects

- Importance Sampling and control variates
  There exist many problems in science and engineering whose exact solution either does not exist or is difficult to find. For the solutions of those problems, one has to resort to approximate methods. The Variational Monte Carlo (VMC) technique is relatively insensitive to the size of the system, it can be applied to large systems where some other methods are computationally not feasible.
- Gaussian Process Optimization in the Bandit Setting:No Regret and Experimental Design
  Analysis of the article and work on it: Many applications require optimizing an unknown, noisy function that is expensive to evaluate. We formalize this task as a multi-armed bandit problem, where the payoff function is either sampled from a Gaussian process (GP) or has low RKHS norm. We resolve the important open problem of deriving regret bounds for this setting, which imply novel convergence rates for GP optimization. We analyze GP-UCB, an intuitive upper-confidence based algorithm, and bound its cumulative regret in terms of maximal information gain, establishing a novel connection between GP optimization and experimental design.
- UVIP: Model-Free Approach to Evaluate Reinforcement Learning Algorithms
  During the shift, the task assigned to me was completed, as well as, due to the early completion of the work, helping a person on another part of the project. It was proposed to use the KBSF method to estimate the probabilistic transition and an algorithm was written that simplifies the work, unlike the classical KBRL. After that, I began to help a person with the implementation of the UVIP algorithm itself on the Atari games platform, we got quite good results, which we need to work on in the future.

Recommendation

Уважаемые коллеги,

Я с удовольствием рекомендую Варвару Руденко на кафедру интеллектуального анализа данных. Варвара в августе 2020 года проходила обучение в "Научно-технологическом университете «Сириус» по программе "Современные методы теории информации, оптимизации и управления" с направлением «Сэмплирование, управление и оптимизация».

Варвара Руденко продемонстрировала способность быстро разбираться в новом материале. В сжатые сроки проектной смены она успешно изучила с нуля язык программирования Python, необходимый математический аппарат теории вероятностей и методов Монте-Карло. Под моим руководством Варвара успешно выполнила и защитила персональный проект «Importance sampling and control variates». За время обучения и работы над проектом Варвара зарекомендовала себя с самой лучшей стороны, продемонстрировав трудолюбие и заинтересованность. Навыки, приобретенные во время работы над проектом, несомненно были бы полезны при дальнейшей научной работе на кафедре.

С уважением,
Наумов Алексей Александрович,
Заведующий Международной лабораторией стохастических алгоритмов и анализа многомерных данных НИУ ВШЭ,
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