Denil Sharipov

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Education

Saint Petersburg University   *Saint Petersburg, Russia*

Bachelor of Computer Science   *2019 - 2023*

- **Program:** Modern Programming
- **GPA:** 4.72 / 5
- **Relevant courses:** C, C++, statistical analysis, machine learning, computational complexity theory, linear algebra, mathematical analysis, algorithms and data structures, formal languages theory, computer architecture

Work Experience

Yandex   *Saint Petersburg, Russia*

Software developer intern   *Jul. 2021 - Oct. 2021*

- Developed the call centre application of Yandex.Taxi service
- Developed the feature (and Telegram bot) which allows call centre to distribute extra load between operators in high load periods
- Used Python3 language and pytest, aiohttp, asyncio frameworks, PostgreSQL database

Projects

CircuitSAT solver   *team project, current*

C++, Python   *Oct. 2021 -*

- Development of the efficient algorithm for CircuitSAT problem (which is NP-complete) using heuristics, random walks, branching and other techniques
- The possible method of CircuitSAT solving is applying Tseytin transformation for the input circuit and running SAT solver on the obtained result.
  However, we believe that circuit structure could give the additional efficiency rather than Tseytin transformation.

Schreier-Sims algorithm   *individual project*

C++   *May. 2020*

- Implementation the Schreier-Sims algorithm in computational group theory
- The algorithm works with subgroups of permutation group and can be used for efficient order calculation, finding of orbits and stabilizers, checking if the element is the member of group
- Designed and implemented classes of permutation, Schreier tree and chain of stabilizers

Computational linear algebra algorithms   *individual project*

Haskell Data.Matrix, HUnit   *Nov. 2020 - Dec. 2020*

- Implementation some computational linear algebra algorithms, connected with finding approximate solutions of linear equation systems and eigenvalues of matrices.
- The algorithms was implemented with maximum efficiency, therefore some advanced functional data structures, such as Zipper, was used.

Skills and Interests

Languages

- C++, C, Python, Haskell, Kotlin, Java, SQL

Tools and Technologies

- GitHub, TeamCity, CLion, PyCharm, Postman, PostgreSQL
- C Makefile, valgrind, ncurses, avr
- Python3 SpeechRecognition, lxml, pytest, asyncio, aiohttp, asyncpg

Research interests

- My research interests include: exact exponential / parametrized / probabalistic algorithms, fine-grained complexity, algorithms for NP-hard problems
- Worked on Minimum Paired Dominating Set and Metric Dimension problems

English

- B2

Olympiads and Competitions

2019   **1/100 place**, SPbU School Olympiad in computer science

2019   **3/60 place**, All-Russian School olympiad in computer science, Semifinal

2019   **Winner, top 40 / 500 participants**, MIPT School olympiad in mathematics

2020   **Participant**, Hackathon HAC-HackAgainstCovid