Dmitrii Avdiukhin

Resume

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dyukha.github.io

Research interests

Projected gradient descent, Balanced graph partitioning, Distributed algorithms.
Previous areas: syntax/static analysis, model generation, model checking.

Education

2017–current **Ph.D.**, *Indiana University*, Bloomington, IN.
Advisor: Grigory Yaroslavtsev (`grigory.us`)

2008–2013 **Specialist (5 years) Degree**, *Saint Petersburg State University*, GPA $4.9/5.0$.
Diploma with distinction. Thesis title: "Translation definition language for information system reengineering tools". Advisor: Iakov Kirilenko (`https://www.researchgate.net/profile/Iakov_Kirilenko`)

Experience

Summer 2019 **Research Intern**, *Amazon*, New York.
Improving accuracy and performance of graph convolutional networks.
Mentor: Zohar Karnin (`https://sites.google.com/site/zoharkarnin`)

Summer 2018 **Software Engineer**, *Pro Unlimited @ Facebook*, Menlo Park.
Implementing balanced graph partitioning algorithm.
Mentor: Sergey Pupyrev (`https://spupyrev.github.io`)

2016-2017 **Researcher**, *ITMO University*, Saint Petersburg.
Model generation from execution traces

2013-2016 **Software Engineer**, *JetBrains*, Saint Petersburg.
SQL dialects support

2012-2013 **Software Engineer**, *Lanit Tercom*, Saint Petersburg.
Participating in project of migration a system from SQL Server to Oracle

Publications

AISTATS 2020 in submission G. Yaroslavtsev, S. Zhou, and D. Avdiukhin. ""Bring Your Own Greedy"+Max: Near-Optimal $1/2$-Approximations for Submodular Knapsack"

OPT 2019 D. Avdiukhin, G. Yaroslavtsev and C. Jin. "Escaping Saddle Points with Inequality Constraints via Noisy Sticky Projected Gradient Descent"

VLDB 2019 D. Avdiukhin, S. Pupyrev and G. Yaroslavtsev. "Multi-Dimensional Balanced Graph Partitioning via Projected Gradient Descent"

KDD 2019 D. Avdiukhin, S. Mitrovic, G. Yaroslavtsev and S. Zhou "Adversarially Robust Submodular Maximization under Knapsack Constraints". Oral presentation, 9.2% acceptance rate.

INDIN 2017 — D. Avdyukhin, D. Chivilikhin, G. Korneev, V. Ulyantsev and A. Shalyto. "Plant trace generation for formal plant model inference: methods and case study"

Perspectives of System Informatics 2015 — E. Verbitskaia, S. Grigorev and D. Avdyukhin. "Relaxed Parsing of Regular Approximations of String-Embedded Languages"

Talks

VLDB 2019 — Presenting "Multi-Dimensional Balanced Graph Partitioning via Projected Gradient Descent"

KDD 2019 — Presenting "Adversarially Robust Submodular Maximization under Knapsack Constraints"

Fellowships

2019 — Nominated for Microsoft Fellowship by Indiana University

Competitive programming

ACM ICPC — Latest result: 19th place on world semi-final, 2014 (`neerc.ifmo.ru/archive/2014/standings.html`)

Codeforces — Rating: 2135 (`codeforces.com/profile/dyukha`)

Topcoder — Rating: 1784 (`www.topcoder.com/members/dyukha`)

Skills

Languages — Kotlin, C#, Java, Python, C++, Haskell, F#, various SQL dialects, Coq

VCS — git, Mercurial, SVN

English — TOEFL: 100, Upper-Intermediate

Hobbies

Badminton, volleyball.