Curriculum vitae

Thomas Dybdahl Ahle, PhD

February 2022

Publications

"Tiling with Squares and Packing Dominos in Polynomial Time". By A Aamand, M Abrahamsen, Thomas Dybdahl Ahle, P Rasmussen at Symposium on Computational Geometry (SOCG) 2022.

"Sharp and Simple Bounds for the raw Moments of the Binomial and Poisson Distributions". By Thomas Dybdahl Ahle at Statistics Probability Letters (SAPL) 2022.

"The Power of Hashing with Mersenne Primes". By Thomas Dybdahl Ahle, J Knudsen, M Thorup – Submitted 2021.

"Similarity Search with Tensor Core Units". By Thomas Dybdahl Ahle, F Silvestri at International Conference on Similarity Search and Applications (SISAP) 2020.

"On the Problem of p^1 in Locality-Sensitive Hashing". By Thomas Dybdahl Ahle at International Conference on Similarity Search and Applications (SISAP) 2020.

"Subsets and Supermajorities: Optimal Hashing-based Set Similarity Search". By Thomas Dybdahl Ahle, J Knudsen at IEEE Symposium on Foundations of Computer Science (FOCS) 2020.

"Oblivious Sketching of High-Degree Polynomial Kernels". By Thomas Dybdahl Ahle, M Kapralov, J Knudsen, R Pagh, A Velingker, D Woodruff, A Zandieh at ACM-SIAM Symposium on Discrete Algorithms (SODA) 2020.

"Optimal Las Vegas Locality Sensitive Data Structures". By Thomas Dybdahl Ahle at IEEE Symposium on Foundations of Computer Science (FOCS) 2017.

"Parameter-free Locality-Sensitive Hashing for Spherical Range Reporting". By Thomas Dybdahl Ahle, M Aumüller, R Pagh at ACM-SIAM Symposium on Discrete Algorithms (SODA) 2017.

"On the Complexity of Inner Product Similarity Join". By Thomas Dybdahl Ahle, R Pagh, I Razenshteyn, F Silvestri at ACM Symposium on Principles of Database Systems (PODS) 2016.

Education

June 2019 Doctor of Philosophy, IT University of Copenhagen.

2019 Master of Arts in Computer Science, University of Oxford.

2017 Master of Science, IT University of Copenhagen, University of Copenhagen.

2013 Bachelor of Arts in Computer Science, University of Oxford.

Awards and Scholarships

Research Travel Award, Stibo-Foundation, 2016.
Given to just two Danish students a year, to collaborate in research abroad.

Northwestern Europe Regional Programming Contest, 1st, Association for Computing Machinery, 2014.
With my team Lambdabamserne, becoming the first ever Danish team to qualify for the ACM wold finals.

Danish National Programming Champion, 1st, Netcompany, 2013, 2014.
Algorithm competition known as "DM i Programmering"

Oxford Computer Science Competition, 1st, University of Oxford, 2013.
For my Numberlink solving software, giving the first fixed parameter polynomial algorithm for the problem.

Demyship, Magdalen College, 2010, 2011.
A historic scholarship awarded to the top students each year.

Les Trophées du Libre, 1st, Free Software Foundation Europe, 2007.
For my work on the PyChess free software chess suite.

Industry and Employment

Chief Machine Learning Officer at SupWiz, 2017 - 2018.
I co-founded an NLP start-up with academics from University of Copenhagen. At SupWiz I lead a team of four in developing our chatbot software and putting it into production at 3 of the largest Danish IT companies. (Now many more.) In 2019 the chatbot won the most prestigious prize given by Innovation Fund Denmark. I was also responsible for our hiring efforts, interviewing dozens and employing 4 engineers over a 5 month period.

Teaching at IT University of Copenhagen, 2015 - 2019.
In 2019 I co-designed and taught the Parallel and Concurrent Programming course to 140 master students. Earlier years I assisted in various algorithms design classes.

Teaching at University of Copenhagen, 2014.
I assisted in teaching algorithms to more than 200 bachelor students.

Software Engineer at Sophion Bioscience, 2013 - 2014.
I lead a project developing internal debugging tools for sifting through gigabytes of data/second on Sophion's ion channel screening machines.

Software Engineer Intern at Palantir, 2012.
Ported the Metropolis ontological time-series system (now Foundry) to the web. Acted as coordinating hub for 10 people deciding API and network infrastructure.

Software Engineer at XION, 2010-2012.
I Developed the most popular Danish TV-listings app for Android at the time. This included writing scrapers to gather TV information from 100s of TV-stations (consensually) and serving it on a public facing API.

Open Source Projects

Project Owner at PyChess, 2006 - current.
Developed the most used chess client and engine for the Linux desktop. Currently the 7th most used interface on the Free Internet Chess Server. Translated to more than 35 languages. I lead a team of 4-8 developers and designers. In 2009 we won Les Trophées du Libre in Paris. The project is under the Gnu Public License and has been used by people all over the world for research projects and other experiments.

Media

Jon Lund. "En ulv i fåreklæder", Prosa, May 2021. An interview on the use of SimHash in GoogleFLoC system.

"The Stibo-Foundation supports IT-talents", Stibo, August 2016. The announcement of my winning the Stibo Travel grant.

Bidwell, Jonni. "Python: Sunfish chess engine", Linux Format, January 2016. Article about my Sunfish chess software.

"The National Team at the Programming World Cup", Computerworld, June 2015. Coverage of my teams participation in the ICPC World Finals.

Elkær, Mads. "Denmark's Three Greatest Programmers", Computerworld, October 2013.

Contact

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DBLP List of papers

Google Scholar List of Papers

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Github: github.com/thomasahle