NIV DAYAN

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EDUCATION & RESEARCH EMPLOYMENT

Pliops — *2019–current* — **Data Structure Researcher**
Goal: Designing and Accelerating Key Value Store Components in Hardware.
Advisor: Moshe Twitto

Harvard — *2015–2019* — **Postdoc in Computer Science**
Goal: Identifying the best possible performance trade-offs for log-structured key-value stores.
Advisor: Stratos Idreos

IT University of Copenhagen — *2012–2015* — **PhD in Computer Science**
Thesis: Modelling and Managing SSD Write-Amplification.
Advisor: Philippe Bonnet

IT University of Copenhagen — *2010–2012* — **MSc in Computer Science**
Thesis: Predictable I/Os and Efficient B-Tree Updates on Flash-Based Solid State Drives.
Advisor: Philippe Bonnet

University of Dundee — *2007–2010* — **BSc in Computer Science and Economics**

AWARDS

SIGMOD '18 — **Most Reproducible Paper Award** for our paper *Data Canopy*.

SIGMOD '17 — **Best of ACM SIGMOD.** Our paper *Monkey: Optimal Navigable Key-Value Store* was selected as one of the four best papers.

SELECTED PUBLICATIONS ON KEY-VALUE STORES

SIGMOD '19
The Log-Structured Merge-Bush & the Wacky Continuum.
Niv Dayan, Stratos Idreos.

Demo@SIGMOD '19.
Coconut Palm: Static and Streaming Data Series Exploration Now in your Palm. Haridimos Kondylakis, **Niv Dayan**, Kostas Zoumpatianos, Themis Palpanas.

IEEE Data Engineering Bulletin '19.
Learning Data Structure Alchemy. Stratos Idreos, Kostas Zoumpatianos, Subarna Chatterjee, Wilson Qin, Abdul Wasay, Brian Hentschel, Mike Kester, **Niv Dayan**, Demi Guo, Minseo Kang, Yiyou Sun.

CIDR '19
Design Continuums and the Path Toward Self-Designing Key-Value Stores that Know and Learn. Stratos Idreos, **Niv Dayan**, Wilson Qin, Mali Akmanalp, Sophie Hilgard, Andrew Ross, James Lennon, Varun Jain, Harshita Gupta, David Li, Zichen Zhu.

VLDBJ '19
Coconut: Sortable Summarizations for Scalable Indexes over Static and Streaming Data Series. Haridimos Kondylakis, **Niv Dayan**, Kostas Zoumpatianos, Themis Palpanas.

SIGMOD '18
Dostoevsky: Better Space-Time Trade-Offs for LSM-Tree Based Key-Value Stores via Adaptive Removal of Superfluous Merging.
Niv Dayan, Stratos Idreos.

VLDB '18	*Coconut: A Scalable Bottom-Up Approach for Building Data Series Indexes.* Haridimos Kondylakis, **Niv Dayan**, Kostas Zoumpatianos, Themis Palpanas.
TODS '18	*Optimal Bloom Filters and Adaptive Merging for LSM-Trees.* **Niv Dayan**, Manos Athanassoulis, Stratos Idreos.
IEEE Data Engineering Bulletin '18	*The Periodic Table of Data Structures.* Stratos Idreos, Kostas Zoumpatianos, Manos Athanassoulis, **Niv Dayan**, Brian Hentschel, Michael S. Kester, Demi Guo, Lukas Maas, Wilson Qin, Abdul Wasay, Yiyou Sun.
SIGMOD '17	*Monkey: Optimal Navigable Key-Value Store.* **Niv Dayan**, Manos Athanassoulis, Stratos Idreos.
SIGMOD '17	*Data Canopy: Accelerating Exploratory Statistical Analysis.* Abdul Wasay, Xinding Wei, **Niv Dayan**, Stratos Idreos.
SIGMOD '16	*GeckoFTL: Scalable Flash Translation Techniques for Very Large Flash Devices.* **Niv Dayan**, Philippe Bonnet, Stratos Idreos.
Birte@VLDB '16	*Past and Future Steps for Adaptive Storage Data Systems: From Shallow to Deep Adaptivity.* Stratos Idreos, Manos Athanassoulis, **Niv Dayan**, Demi Guo, Mike S. Kester, Lukas Maas, Kostas Zoumpatianos.
Demo@VLDB '13	*EagleTree: Exploring the Design Space of SSD-Based Algorithms.* **Niv Dayan**, Martin Kjaer Svendsen, Matias Bjoerling, Philippe Bonnet, Luc Bouganim.
CIDR '13	*The Necessary Death of the Block Device Interface.* Matias Bjoerling, Philippe Bonnet, Luc Bouganim, **Niv Dayan**.

RECENT TALKS AND LECTURES

2019	Technion · Hebrew University of Jerusalem · University of Washington · MSR @ Redmond
2018	NetApp · Facebook @ Palo Alto · Vertica · University of Chicago · University of Wisconsin
2017	NetApp · Facebook @ Boston · Vertica · University of Dresden

TEACHING

Harvard '18	Teaching assistant in AC297, a MSc Course on data science.
Harvard '18	Teaching assistant in CS165, a BSc Course on data systems.
Harvard '17	Teaching assistant in AC297, a MSc Course on data science.
Harvard '17	Teaching assistant in CS165, a BSc Course on data systems.
Harvard '16	Teaching assistant in AC297, a MSc Course on data science.
IT Univ. of Copenhagen '14	Teaching assistant in a MSc course on database tuning.
Univ. of Dundee '09	Teaching assistant in a BSc course on data structures.

PRE-RESEARCH WORK EXPERIENCE

Podio '12	Data analyst.
Sunstone Capital '12	Data analyst.

Netmester '11-'12	Back-end web-developer.
Academia Sinica '10	Research Intern.
Calico Jack '09	Web development intern.

OTHER INFORMATION

Interests	guitar · science fiction · nonfiction · Brazilian Jiu Jitsu
Languages	English · Hebrew

December 1, 2019