Ελλάδα 2.0
ΕΘΝΙΚΟ ΣΧΕΔΙΟ ΑΝΑΚΑΜΨΗΣ ΚΑΙ ΑΝΘΕΚΤΙΚΟΤΗΤΑΣ

Με τη χρηματοδότηση της Ευρωπαϊκής Ένωσης
NextGenerationEU

SUB1.1 Συμπράξεις Ερευνητικής Αριστείας – ΣΕΑ

HAR.S.H: Hardware-Aware extReme-scale Similarity search
Αναζήτηση Ομοιότητας σε Μεγάλες Συλλογές Σειρών Δεδομένων συνυπολογίζοντας το Υλικό

ΥΠ3ΤΑ-0560901

Παραδοτέο Π6.3

Δημοσιεύσεις Έργου

Ιούνιος 2026

Π6.3 - 1 Εισαγωγή

Το παρόν παραδοτέο καταγράφει τις επιστημονικές δημοσιεύσεις που παρήχθησαν στο πλαίσιο του έργου HAR.S.H. κατά την περίοδο υλοποίησής του. Οι δημοσιεύσεις αποτυπώνουν τα κύρια ερευνητικά αποτελέσματα του έργου και συνδέονται άμεσα με τους τεχνικούς του στόχους, όπως η αποδοτική αναζήτηση ομοιότητας σε δεδομένα μεγάλης κλίμακας, η αξιοποίηση σύγχρονων υπολογιστικών πλατφορμών, η ανάπτυξη παράλληλων και ταυτόχρονα προσπελάσιμων δομών δεδομένων, η ανθεκτική επεξεργασία δεδομένων και η υποστήριξη πολυτροπικών αναπαραστάσεων.

Συνολικά, το έργο οδήγησε σε δεκατέσσερις (14) επιστημονικές δημοσιεύσεις σε διεθνή συνέδρια και περιοδικά υψηλού κύρους, καθώς και σε τρεις (3) τεχνικές αναφορές. Η έρευνα που πραγματοποιήθηκε στα πλαίσια του HAR.S.H καλύπτει ένα ευρύ φάσμα θεμάτων, συμπεριλαμβανομένων της μηχανικής μάθησης, των πολυτροπικών αναπαραστάσεων, των δομών δεδομένων υψηλής απόδοσης, των recoverable μηχανισμών συγχρονισμού, καθώς και των κατανεμημένων συστημάτων με ισχυρές εγγυήσεις συνέπειας.

Π6.3 - 2 Επιστημονικές δημοσιεύσεις σε διεθνή συνέδρια και περιοδικά

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3. Hagit Attiya, Panagiota Fatourou, Eleftherios Kosmas, Yuanhao Wei, “Recoverable LockFree Locks”, 29th International Conference on Principles of Distributed Systems (OPODIS), Volume 361, pp. 17:1–17:19, 2025. (**Βραβείο Καλύτερης Εργασίας Συστημάτων.**)
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4. Antonios Katsarakis, Vasilis Gavrielatos, Emmanouil Giortamis, Pramod Bhatotia, Aleksandar Dragojevic, Boris Grot, Vijay Nagarajan, Panagiota Fatourou, “The LAW theorem: Local Reads and Linearizable Asynchronous Replication”, Proceedings of the Very Large Data Bases (VLDB) Endowment, Volume 18, No. 9, pp. 2831–2845, 2025.
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   Link to paper: https://drops.dagstuhl.de/entities/document/10.4230/LIPIcs.DISC.2025.55
6. Olivia Grimes, Ahmed Hassan, Panagiota Fatourou, Roberto Palmieri, “PIPQ: A Strict Insert-Optimized Concurrent Priority Queue”, 39th International Symposium on Distributed Computing (DISC), Volume 356, pp. 35:1–35:23, 2025.
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   Link to paper: https://drops.dagstuhl.de/entities/document/10.4230/LIPIcs.DISC.2025.35
7. Panagiota Fatourou, Eric Ruppert, “Lock-Free Augmented Trees (Abstract)”, Workshop on Principles of HPC (HOPC '25), collocated with SPAA 2025, Portland, USA, 2025. An extended version of this work was published in the Proceedings of the 38th International Symposium on Distributed Computing (DISC 2024), pp. 23:1–23:24. (**Βραβείο Καλύτερης Εργασίας.**)
   Link to conference/workshop: https://sites.gatech.edu/hopc25/accepted-papers/
   Link to extended paper: https://dl.acm.org/doi/10.1145/3746238.3746251

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9. Jiuqi Wei, Zhenyu Liao, Ruoyu Han, Quanqing Xu, Chuanhui Yang, Themis Palpanas, “TaCo: Data-adaptive and Query-aware Subspace Collision for High-dimensional Approximate Nearest Neighbor Search”, Proceedings of the ACM Management of Data (PACMMOD) Journal, Volume 4, Issue 3, 2026; presented at ACM SIG International Conference on Management of Data / Principles of Database Systems (SIGMOD/PODS), Bengaluru, India, June 2026.
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14. Matteo Ceccarello, Alexandra Levchenko, Ioana Ileana, Themis Palpanas, “Evaluating and Generating Query Workloads for High Dimensional Vector Similarity Search”, ACM SIGKDD, pp. 5299–5310, 2025.
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Π6.3 - 3 Τεχνικές αναφορές

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17. H. Attiya, P. Fatourou, E. Kosmas, Y. Wei, "Recoverable LockFree Locks" – FORTH ICS TR 500, June 2026.

Π6.3 - 4 Άλλα Άρθρα

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