

**Ben Karsin**

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<http://benkarsin.com>

**Education**

University of Hawaii at Hilo, Hilo, HI

**B.S. in Computer Science****Graduated May, 2006**

Minor: Mathematics

Honors: Acquired Database Management Certificate.

University of Hawaii at Manoa, Honolulu, HI

**M.S. in Information and Computer Science****Graduated May, 2013**

Research Area: High Performance Computing

Thesis: Parallel Xpath Query Evaluation on Multi-core Processor

Advisors: Dr. Lipyeow Lim and Dr. Henri Casanova

University of Hawaii at Manoa, Honolulu, HI

**PhD in Information and Computer Science****Graduate May, 2018**

*Dissertation Topic:* Modeling Performance and Designing Algorithms for Modern GPUs Architectures

Dissertation Defense Date (tentative): March 20<sup>th</sup>, 2018

Advisor: Dr. Nodari Sitchinava

PhD Qualifying Exam Score: 89%

Literature Review Topic: The Parallel Fast Fourier Transform

**Related Experience**

University of Hawaii at Manoa

**Teaching Assistant****Jan 2018 - Present**

Assisted in in-class exercises as well as grading and answering student questions.

Courses that I acted as teaching assistant for:

ICS 311 - Algorithms. Sophomore-level algorithms course taught by Dr. Nodari Sitchinava.

ICS 332 - Operating Systems. Junior-level course taught by Dr. Henri Casanova.

University of Hawaii at Manoa

**Research Assistant****Jan 2016 - Jan 2018**

Perform research on parallel algorithms design and analysis with a focus on GPU-efficiency.

Collaborate with other researchers and, thus far, have one publication relating to computational geometry. Current work continues on problems of fundamental algorithm design as well as

developing, analyzing, and testing performance models for Graphics Processing Units.

University of Hawaii at Manoa ITS Department

**Graduate Assistant**

**April 2011 - Dec 2015**

Worked on many tasks including designing and implementing a metadata management system called DCmd using Grails, Groovy, Java, Javascript, CSS, and others. More information available at: <http://benkarsin.com/dcmd>

University of Hawaii at Manoa ITS Department

**Student Programmer**

**Oct 2008 - April 2011**

Student Programmer Position focused on a designing and implementing a data collection and visualization project utilizing Cacti and uPortal technologies. Extended to Graduate Assistant position.

**Publications**

1. Efficient Batched Predecessor Search in Shared Memory on GPUs, Ben Karsin, Henri Casanova, and Nodari Sitchinava, In Proc. of HiPC, **2015**
2. An Efficient Algorithm for the 1D Total Visibility-Index Problem, P. Afshani, H. Casanova, M. de Berg, B. Karsin, C. Lambrechts, N. Sitchinava, C. Tsirogiannis, In Proc. of ALENEX, **2017**
3. Beyond binary search: parallel in-place construction of implicit search trees, Kyle Berney, Henri Casanova, Alyssa Higuchi, Ben Karsin, and Nodari Sitchniava, In Proc of IPDPS, **2018**

**Non-published Technical Papers**

1. Low-latency Xpath Query Evaluation on Multi-Core Processors, B. Karsin, H. Casanova, L. Lim, Available online at <https://benkarsin.com/wp-content/uploads/2014/01/xpath-paper1.pdf>, **2014**
2. An Efficient Multiway Mergesort for GPU Architectures, Henri Casanova, John Iacono, Ben Karsin, Nodari Sitchinava, and Volker Weichert, CoRR, abs/1702.07961, **2017**

**Professional Service**

*Program Committee Service:*

- The Ninth International Conference on Advances in Databases, Knowledge, and Data Applications (DBKDA), **2017**
- The Tenth International Conference on Advances in Databases, Knowledge, and Data Applications (DBKDA), **2018**

*External Reviewer (Journals):*

- Cluster Computing (CLUS)

**Relevant Projects and Experiences**

- Designed and Implemented the DCmd metadata application. Project is continually expanding in scope and is available as an open-source project on Github, **2012-present**
- Designed and Implemented SITAR, an open-source application to collect, monitor, and visualize statistical data for the ITS datacenter at University of Hawaii. **2011**
- Contributed to the Cracklib open-source library with a solution to an issue resulting in excessive rejections when using long password-lengths, **2011**

**Spoken Languages**

- English - native language
- French - proficient (conversationally fluent)