Curriculum Vitae for Eivind Storm Aarnæs

Personal information

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Born:	21.02.1991	Nationality:	Norwegian

Summary

I have a masters degree in Computational Science from the University of Oslo, completed in 2016. My project was about a particle system modeling linear elasticity, and accelerating linear algebra computations using GPUs. From my studies leading to this degree I have gained broad knowledge about algorithms, numerical mathematics, and programming in several languages.

Prior work experience includes teaching programming: mostly one-to-one teaching in a lab setting, but also as lecturing and live coding in plenary settings. I have also worked with testing—both manual and automated, and with Android development and some minor Javascript development.

Technical skills

Frameworks	OpenCL, Android, Node.js
Languages	C/C++, Python, Javascript, Java, TeX/LaTeX
Tools	Git, CMake, Vim editor, Atom editor, IntelliJ IDEA

Education

2011 – 2014	Bachelor Degree in Applied Mathematics at the University of Oslo.
2014 – 2016	Masters Degree in Computational Science at the University of Oslo. My thesis was titled *"Sparse Matrix Storage Schemes for a Linear System arising from a Discrete Model of Elasticity"*.

Professional experience

2017 –	IT Consultant at Expert Analytics AS.
2012 – 2015	Teaching Assistant at the University of Oslo in the course *"INF1100: Introduction the programming with scientific applications"*. Only the autumn semesters. Was responsible for a weekly programming lab. I also corrected assignments for my class.
2013 – 2014	Summer intern and contract software developer at Teleplan Globe AS. Prototyped an Android app for logging mobile network parameters, and identifying all the cell towers the device communicated with.
2014 – 2014	Teaching Assistant at the University of Oslo in the course *"INF1010: Object oriented programming"*. Only the spring semester. Shared responsibility for both reviewing the past weeks exercises in plenary for the entire course, and lecturing the pre-course for students with no prior knowledge in Java.
2013 – 2013	Teaching Assistant at the University of Oslo in the course *"INF1010: Object oriented programming"*. Only the spring semester. Was responsible for a weekly programming lab. I also corrected assignments for my class.
2012 – 2013	Summer intern at Teleplan Globe AS. Worked on testing web applications: both manually and by automating manual procedures.

Languages

English	Professional working proficiency
Norwegian	Native proficiency

Personal skills

OpenCL	As part of my masters degree I have implemented OpenCL GPU operations for several sparse matrix schemes.
Reading Code	Through my work as a teaching assistant I have read and graded somewhere around 140 000 lines of code (Python/Java).

Extended descriptions of selected projects

Activity	The norwegian land register (NO: *"Matrikkelen"*)
Period	April. 2017 —
Role	Developer
Staffing	More than 10 developers
Volume	100%
Description	I redesigned and implemented the algorithms for computing land borders using a specialized depth-first graph search.

Tools	Java, Oracle SQL, Hibernate, IntelliJ IDEA, JIRA, Confluence and Perforce

Activity	Region and Municipality reorganization (NO: *"Kommunereformen"*)
Period	Jan. 2017 — April. 2017
Role	Developer
Staffing	5 developers
Volume	100%
Description	My part of the project was to partition land data into sets of independent data to enable parallel processing without dead-locking the database. Data dependence was defined by both logical and algorithmic constraints of the data transforms, and by database indices and constraints. The partitioning was done using graph partitioning algorithms.
Tools	Java, Oracle SQL, Hibernate, IntelliJ IDEA, JIRA, Confluence and Perforce

Activity	A C++/OpenCL library for sparse linear algebra
Period	Aug. 2015 — Dec. 2017
Role	Researcher and developer
Staffing	1 researcher
Volume	100%
Description	Developed as part of my masters degree at the University of Oslo. The library implements several different sparse matrix schemes and matrix-vector operations. Matrix-vector algorithms are implemented both serially, and parallel for GPUs using the OpenCL framework.
Tools	C++, OpenCL, Python, CMake, and Git

Activity	Prototype an Android app for logging mobile network parameters
Period	June 2013 — Aug. 2014
Role	Developer
Staffing	1 developer
Volume	June/july 2013 and 2014: 100%. Otherwise: 20%
Description	The project was to determine if an Android device coupled with proprietary data from the network operator could access enough parameters from the mobile network as to be usefull for logging network state and diagnosing network problems. To access enough parameters hidden Android APIs was accessed through reflection in addition to the public APIs available through the Android SDK. As the app used proprietary network data it was never meant for public use and is not available.
Tools	Android, Java, IntelliJ IDEA, Gradle, and Git