CURRICULUM VITAE
Viktor Qvarfordt

September 29, 2013

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Formal Education

Bachelor's Programme in Physics, Stockholms Universitet   *2011 – Ongoing*

I take part in the extended programme 'Forskargrenen' which amounts to studying at a higher pace and approching more advanced areas earlier in the programme. The programme focuses on theory, problem solving, logical and analytical thinking, numeracy, planning and performing experiments, numerical analysis (mainly with MATLAB) and the ability to communicate complex ideas.

Additional courses in Mathematics, Stockholm University   *2011 – Ongoing*

My interest for mathematics is no less than that for physics. In addition to the courses (60 ECTS points) included in the physics programme I have taken courses in *Ordinary Differential Equations*, *Foundations of Analysis*, *Mathematical Logic* and *Algebra and Combinatorics*.

Additional courses in Computer Science, Various Universities   *2011 – Ongoing*

Formal education in CS consists mainly of Python, Scheme, MATLAB, Mathematica and C++. However, my non-formal experience greatly supersedes this, see previous employments and further details under the section below regarding programming.

Naturvetenskapligt program, Internationella Kunskapsgymnasiet   *2008 – 2011*

2600 points, grade average: 22.0 (of 22.5). Specialization courses in physics, mathematics, biotechnology and chemistry. The majority of courses where given in English.

Experience & Employment

Teaching Assistant, Dep. of Mathematics, Stockholm University   *2013 Aug – Ongoing*

Currently working as Assistant / Tutor in first-level university courses *Mathematics I*, *Mathematics for the Natural Sciences* and online course *Introductory Course in Mathematics*. The work mainly consists of tutoring students, grading exams and hand-in assignments and performing administrative tasks for the department. Part-time employment.

Researcher – Multimedia Technologies, Ericsson Research, Kista   *2013 Jun – 2013 Aug*

Working with the latest HTML5 technologies I developed real-time web applications for project management, collaboration and productivity. This job gained me experience in working in a professional office-environment and collaborating within a group of professional software developers. See the section 'Programming & IT' below for a summary of the skill-set I acquired during the summer. Full-time employment during the summer.

Substitute Teacher – upper secondary school, Lärarjouren *2012 Sep – 2013 Jun*

At various upper secondary schools I held classes in mathematics, physics and the other natural sciences. A class was often assigned to me with short notice, requiring me to be able to quickly prepare a lecture based on the needs of the student group. This job was a great opportunity for improving my skills as a group leader and in communicating to larger group. Part-time employment.

Private Teacher – upper secondary school, Studybuddy *2012 Aug – 2013 Jun*

I worked one on one with students to achieve the desired knowledge level and grades. My role was mainly pedagogical but also coaching and helping the student with study techniques and introducing them to higher-level education. My subject areas where mainly mathematics and physics but also the other natural sciences. The work with a student often extended over a full semester. Part-time employment.

Student Mentor, Stockholms Universitet *2012 Spring*

Student with neuropsychiatric disability, Asperger syndrome. Worked regularly with the student, focusing on study techniques, setting up concrete goals and planning for the workload and giving structure to the studies in general. Part-time during the semester.

Other education and engagements

Participation in organizations at Fysikums, Stockholm University *2013 Spring – Ongoing*

– Committee member, Fysikums Ämnesråd — FÄR
– Committee member, Grundutbildningskommittén — GUK
– Committee member, Fysikernas Ämnesråd — Quanta
– Student representative, Fysikums styrelse and other organizations at Fysikum

Teaching mathematics, Stockholm University *2013 Aug 26, 28*

Leadership seminar, Lärarjouren *2012 Sep*

Student mentor/tutor seminar, Stockholm University *2012 Mar*

Webmaster for Skarpnäck Hundungdom *2012 – Ongoing*

Programming skills & IT

A portfolio of some of my most noteworthy open projects can be found on my website viktorq.se.

Web technologies

Client side I have experience, from both my time at Ericsson Research and from hobby projects, in developing responsive, data-intensive applications with modern web technologies. Experience with MV* frameworks, mainly *AngularJS* (favorite) and *Backbone.js*. Layout and design; media queries transitions and animations, *Twitter Bootstrap*.

I get very happy when working with real-time collaborative solutions: experience with websockets and *SocketIO*.

Server side *NodeJS* fanboy. Enjoying *NoSQL* databases such as *mongodb*. Liking the mindset of serving data via *REST API* and rendering data on client side from AJAX calls — or websockets depending on the needs.

Experience in using integrated authentication via *Facebook* and and other authentication providers.

Familiarity with *Ruby on Rails*, *Django*, *PHP* and related services and technologies.

Experience with hosting in the cloud on PaaS'es, mainly working with *Heroku*.

Languages

JavaScript Currently my favorite language, have written lots of code in JS. Also accustomed to CoffeeScript and dialects. See above section for more details regarding web technologies, and my website for projects.

Python My first language, currently not coding actively but still very comfortable.

Bash Simple scripts and automated system maintenance. See for example my automated backup-system implemented in bash.

Matlab Data analysis and numerical methods, object oriented Matlab.

C++ Basic knowledge, one 7.5 ECTS course.

Misc. Scheme and dialects of Lisp. Some familiarity (so far mainly fascination) with Haskell and other functional languages. Comfortable with Regular Expressions.

Numerical methods and analysis Comfortable implementing numerical methods for solving differential equations; Runge Kutta and others. Besides Matlab and Mathematica I have used the Python modules SciPy and NumPy, Sage. Experience in statistical analysis of large sets of data collected from experiments.

Misc. *Version management*: Git, Mercurial.   *Digital typesetting*: LaTeX, XƎTEXand friends. *Editors*: Emacs, Vim, SublimeText

Languages

Swedish – Native.   **English** – Fluent.   **Russian** – Converses without larger problems and reads simpler texts.   **Spanish** – Basic upper secondary school level.