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PROFILE

I hold a master's degree in electronics, but with a life long interest in computers, I hold strong skills within software development also. Common for all of my work, is my keen focus on quality. I like to analyse the problem at hand and give thorough thought to the suggested solution. I feel that the products I help create should have a positive agenda; that they in some way have a positive influence on other peoples lives. I am by nature curious, and I easily become committed to many different types of projects. My primary motivation is the utilization of state-of-the-art knowledge in projects to help develop innovative and technically challenging products.

SUMMARY

- Work experience and projects:**
- Developing image analysis software for performing phenotypes classification of worms in collaboration with researchers at Rutgers University, New York.
 - Web tools development and system administrator, Footballradar.
 - User supporter and system administrator, Technical University of Denmark.
 - Auxiliary teacher in High Performance Computing, Technical University of Denmark.
 - Auxiliary teacher in Signals and Linear Systems in Continuous Time, Technical University of Denmark.
 - Prototype port of the Cendio ThinLinc client to Nokia N770 and N800.
- Education:**
- 2003 – 2009: Master of Science in Electronics at the Technical University of Denmark.
 - > Keywords: DSP, linear control, systems modelling and simulations, software development, embedded systems, intelligent and autonomous systems.
 - > Spring 2007: Exchange student at University of Auckland, New Zealand.
- Personality traits:** Independent, responsible and focus on quality, helpful and a committed team player, likes to make a difference, relaxed attitude and sociable.
- Computer skills:**
- Administrator level in use and maintaining Linux.
 - Languages and tools: C/C++, Matlab, Simulink, OpenMP, Perl, PHP, Eclipse, Subversion, and common office tools and LaTeX.
- Languages:**
- Danish: Mothers tongue.
 - English: Fluently.
 - German: Basic use.
- Miscellaneous:**
- Member of the Nova100 professional network.
 - Two stays at Den Rytmiske Højskole, spring 2002 and 2003.
 - Volunteer at Roskilde Festival, July 2003 to 2007, and 2009.
 - Non-smoker.
 - Hobby interests: Music and rock climbing.

WORK EXPERIENCE

➤ Developing image analysis software for performing phenotypes classification of worms in collaboration with researchers at Rutgers University, New York.

Genetics researchers use the nematode *C. Elegans* for their work, relying on the outward appearances (phenotypes) for hypothesising about gene functions and pathways. Currently, the main method of performing phenotype classification is by manual observation, but this is very time consuming and inaccurate. In the later years, attempts have been made to create automatic image analysis software, but so far they have had poor performance results.

The goal of this software project is to provide a foundation for a behavioural analysis tool that researchers can use. Using new approaches and by implementing the software in C++ (as opposed to current implementations in Matlab) it is possible to process the video streams in near real time speed. The current state of the project is a working prototype, performing multiple worms tracking and separation of interacting worms.

[Since January 2010]

➤ Web tools development and system administrator at Footballradar.

My main focus at Footballradar is the development of their web based applications that the rest of the employees use in their daily work. Focus is on stability and user friendliness; the tools are essential for the work of the other employees, and with a fast paced development schedule, the tools must be intuitive to use in order to prevent time consuming education of our users with each new release.

[Since August 2009]

➤ User supporter and system administrator at Technical University of Denmark.

I was employed in the G-Bar, which is the largest computer databar at DTU. It consists of a number of central Solaris and Linux servers, which the students access through thin clients.

As a former employee of the G-Bar, I have gained extensively knowledge regarding the use and maintenance of a multi server and multi user computer system. I have great experience in installing and setting up software, as well as development and adaptation of task specific scripts. Furthermore, I have great experience with user contact in that a large part of the work at the G-Bar is to help and support students and debug problems they may run into.

In the last half year of my time at the G-Bar Support, I took the role as project coordinator to relieve our daily manager from some of his work load. I therefore have experience with planning and prioritizing future tasks and with project management.

I stopped working at the G-Bar to give myself some extra time while writing my master's thesis.

[November 2003 to October 2008]

➤ Auxiliary teacher in High Performance Computing.

As the auxiliary teacher, my job is to help the students solve their exercises and thus get a better understanding of the course material. I do this by letting the students explain their problems to me and help them get the insight to come to the next step in the problem solving. Sometimes, the exercise of explaining the problem is enough for the student to gain the insight of the solution. If there are issues for which I anticipate that many students will have trouble understand, I also take my time to give a short lecture at the black board.

This course gives the students a thorough insight into how a modern CPU works and how it communicates with the rest of the computer. The students are taught in principles for effective use of memory and bandwidth of the system, and in tools for analysing how the executing program makes use of the system resources.

[Fall 2008]

➤ **Auxiliary teacher in Signals and Linear Systems in Continuous Time.**

This course concerns analogue signal and systems analysis, and filter design in continuous time. It introduces the students to Laplace transformation and system transfer functions, and is thus the basis of all signal processing courses at DTU.

[Spring 2006]

➤ **Prototype port of the ThinLinc client to Nokia N770 and N800.**

In collaboration with Cendio – the authors of ThinLinc – I made a port of their Linux client to the Maemo software platform. The project had two goals: To create a working prototype, and to assess the amount of work needed in their code base to support an official Maemo version. The first goal was reached, but due to desktop based design choices it was decided that the workload for maintaining an official release was too big.

[Fall 2005]

EDUCATION

➤ Master of Science in Electronics at the Technical University of Denmark (DTU). Started 2003. Finished at examination April 1st 2009.

While studying at the university, I have been very interested in inter-disciplinarity and therefore chose to follow courses within many different areas. Thus, I have had experience with a wide range of fields from within both hardware, software, and biologically inspired systems. In the following I will elaborate a bit more on the major elements of my education.

Hardware (electronics)

As a part of my basis education as an electronics student, I have experience design and analysis of analogue and digital systems. I have several courses on linear control design and systems analysis, and my experience covers both classic regulators as well as adaptive, fuzzy-logic, and neural regulators. My primary experience in relation to embedded systems have been programming in C, but I have also had my hands on FPGAs and HDL (VHDL and Esterel) and had experience with time and safety critical systems.

Software

A large part of my education has been within different software disciplines. I have experience with design and analysis of algorithms and data structures, multi threaded programming, and finite element modelling. I have had hands on optimizing code for both small and resource critical systems, as well as multi CPU high performance systems. I have had hands on a lot of programming languages (see 1st page) and have participated in many software projects – both in relation to my studies, work, and hobby projects.

Biologically inspired systems

Often, ingenious and elegant solutions to difficult problems are, in one way or another, inspired by nature. This is even more true when talking about intelligent, self adapting, or learning systems, where the goal at some level is to recreate the cognitive capabilities of the brain. It was this perspective that led me into the field of neurophysiology and cognitive psychology. Neurophysiology is the knowledge of the brain and nervous system on a biological level. By which cells is the system build up, and how do they communicate. Cognitive psychology concentrates on the result. What cognitive resource – and limits – does the brain and senses have.

Exchange stay at University of Auckland (UoA), New Zealand

In spring 2007, I went to New Zealand as an exchange student at University of Auckland. This experience was in many ways, in addition to the education received at UoA, a very giving and educating experience with managing things on my own. First, back in Denmark, a lot of papers had to be brought in order and funds raised. Then, while in New Zealand, I went on a motor cycle trip around the two islands, of which half of the trip I drove on my own. And not the least, the stay itself at UoA was very challenging as my Danish study habits and way of life were confronted with the New Zealand way.

Other

As a part of the common education for engineers, I have followed a course in management and organisation. This gave insight into the dynamics and mechanisms that exist in professional contexts and other social scenes. The course was split in three: The single individual (personality types, need and motivation theories), teams and group dynamics, and the organisational level (company structure, culture, power, and politics). This was a very interesting course and enlightened many things that we ourselves had experienced in our group work at the university.

MISCELLANEOUS

➤ **Volunteer at the Spoken Word scene and Climate Community, Roskilde festival.**

Being a volunteer at Roskilde Festival has been a great experience for me. I worked with people from the community of the Danish Folk High Schools and thus the atmosphere between the volunteers were always a bit like being back on a school: A relaxed and social attitude while having the sense of creating something great together. My main work throughout the years have been technical assistance and included various responsibilities such as sound management, dealing with technical needs from artists, managing stage gear, etc.

[2003 to 2007, and 2009]

➤ **Two stays at Den Rytmske Højskole in Vig (DRH).**

The stays were very exciting and educational. The focus was personal development and the tools were music and the unique sense of solidarity and community that only exists at the Danish Folk High Schools. The first stay I attended as a piano player. The second stay I attended as a sound technician.

[Spring 2002 and 2003]

➤ **Hobbies.**

In my spare time I like to play music (mainly the piano), go rock climbing, and other outdoor activities. I like the concept of Open Source and is thus also a great fan of Linux and friends :-)