Shaun Jackman

BASc (First Class Hons.) Computer Eng.

Background

I am a first class honours graduate in computer engineering, a computer and electronics enthusiast, an open-source software advocate, an avid traveller, a climber, a singer and an experimental amateur chef. I have six years of industry experience developing embedded systems and programming real-time systems in C++, C and assembly language. I have extensive experience developing software for Linux systems and using Linux-based development tools to design firmware for embedded systems.

Work Experience

BC Cancer Agency Genome Sciences Centre

2008/2011 − Vancouver, British Columbia − Computational biologist

Developed the genome sequence assembly software package, ABySS. This heavily parallel and distributed software system, which uses MPI, pthread and OpenMP for parallel computation, was the first system to assemble a human genome from short-read sequencing technology.

Pathway Connectivity Inc.

2004/2007 − Calgary, Alberta − Embedded firmware developer

Developed the firmware for Pathway's newest product line of small, low cost lighting control devices. This DIN-rail-mounted product line, which used Atmel's AVR microcontroller, converts between a variety of lighting-control protocols including DMX512, analog, PWM and contact closure.

Vortek Industries Ltd.

2002-May/Aug − Vancouver, British Columbia − Co-op work experience

Worked on the rapid thermal processing tool used in the manufacturing of semiconductor devices. Developed the temperature sensor and lamp power control system using the QNX real-time operating system.

Pathway Connectivity Inc.

2000-Jan/Dec − Calgary, Alberta − Co-op work experience

Aided in modernizing the lighting control industry by working on the design of a novel piece of equipment, the Pathport, to adapt legacy lighting control equipment to Ethernet. This industry-changing product won an award for best new product that year at the industry trade show, Lighting Dimensions International.

Knowledge

Programming languages

C++, C, assembly language, Java, Perl, Python and Matlab

Logic synthesis

Verilog and VHDL with Altera and Xilinx FPGAs and PLDs

Knowledge cont.

Network communication protocols
Intimate knowledge of the TCP/IP protocol stack and Ethernet

Embedded hardware platforms
ARM microprocessors and Atmel AVR microcontrollers

Electronics
Analog and digital electronics and prototyping

Operating systems
Linux and the QNX real-time operating system

Project management
Source code management and revision control

Publications

De novo assembly and analysis of RNA-seq data
G Robertson, J Schein, R Chiu, R Corbett, M Field, SD Jackman et al, *Nature Methods*, 2010

Assembling genomes using short-read sequencing technology
SD Jackman and I Birol, *Genome Biology*, 2010

De novo transcriptome assembly with ABySS
I Birol, SD Jackman, CB Nielsen et al, *Bioinformatics*, 2009

ABySS-Explorer: visualizing genome sequence assemblies
CB Nielsen, SD Jackman, I Birol et al, *IEEE Transactions on Visualization and Computer Graphics*, 2009

ABySS: a parallel assembler for short read sequence data
JT Simpson, K Wong, SD Jackman et al, *Genome Research*, 2009

Education

BASc (First Class Hons.) Computer Eng., Simon Fraser University
1998/2004 − Burnaby, British Columbia
Scholarship student in Computer Engineering. Honours undergraduate thesis on the topic of using Ethernet in entertainment lighting-control systems. Completed two full years of co-op work experience at three companies. GPA 3.85.

French immersion, New Westminster Secondary School
1993/1998 − New Westminster, British Columbia
Completed senior Math and Calculus at age sixteen and continued studying mathematics at Simon Fraser University while still completing secondary-school education.

Royal Conservatory of Music
1990/1998 − New Westminster, British Columbia
Studied piano in private lessons and achieved my eighth grade certificate.

Volunteer Experience

The Debian Project

2002/present

Maintain a number of open-source software packages for the Debian distribution of GNU/Linux.

Awards

Western Engineering Conference and Competition

2002 − Gold medal in Explanatory Communications. Bronze medal in Entrepreneurial Design.

Simon Fraser University

1999/2004 − Open Undergraduate Scholarship

1998 − Tadeusz Specht Memorial Entrance Scholarship in Science

Contact Information

Email Shaun Jackman <sjackman@gmail.com>

Phone 778-235-0342