

CHRISTOPHER SNOW

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I am a software developer with a broad range of experience, from firmware programming to web backend server development. I have deep knowledge and expertise in embedded software development for mobile computing platforms, wireless communications, networking, sensors and algorithms. Strong quantitative and programming skills as well as a system-level approach to design and development allow me to tackle new problem spaces and make valuable contributions with minimal ramp-up time.

WORK EXPERIENCE

Senior Architect, System Optimization 03/2012–present

Research in Motion (RIM), Waterloo ON

- Responsible for special projects with scope of system-level design, implementation and optimization in BlackBerry smartphones.
- Current focus is the power management system and software to maximize battery life for next-generation BlackBerry mobile devices.
- Development in C (device software) and Python (various host-side tools).

Senior Architect, Office of the CTO 03/2011–03/2012

Research in Motion (RIM), Waterloo ON

- Prototyping and evaluation of new software technologies with potential value to RIM's current and future businesses. Work included technology strategy and development of proof-of-concept systems, including mobile and web clients as well as server/cloud infrastructure components.
- Designed and developed a prototype cloud-based machine learning platform for internal RIM customers, providing a set of machine learning algorithms accessible as a web service.
- Developed a prototype file synchronization system to provide seamless access to data synced between smartphones, mobile computing devices, desktop computers and the web.
- Development in Python (server components and some device-side code) and Java (for BlackBerry handsets).
- Co-inventor of 9 filed patents related to this work.

DSP Sensor Algorithms Developer 03/2010–03/2011

Research in Motion (RIM), Waterloo ON

- Developed signal processing algorithms for accelerometer, digital compass and other motion sensors in mobile devices.
- Work included system simulation, implementation in C on embedded processors, and extensive testing and resolution of system-level design issues.
- Co-inventor of 14 filed patents in the area of motion sensors and sensor processing algorithms.

L1 Firmware Developer 02/2008–02/2010

Research in Motion (RIM), Waterloo ON

- Designed, as part of a small team, the Memory Management and Medium Access Control (MAC) modules of a Long-Term Evolution (LTE) 4G cellular protocol stack. Implementation, integration, and testing of LTE Access Stratum software in C on a host-based development environment.

- Designed novel physical-layer signal-processing algorithms for GSM/GPRS 2G cellular receivers, implemented them in C on an embedded target, and verified their functionality and performance.
- Co-inventor of 18 filed patents in the area of wireless communication systems and algorithms.

Research Assistant

09/2003–01/2008

Department of Electrical and Computer Engineering, University of British Columbia, Vancouver BC

- Investigated the physical layer of MB-OFDM (Multiband Orthogonal Frequency Division Multiplexing) UWB (Ultra-Wideband) wireless communication systems.
- Developed novel algorithms for mitigating WiMAX interference to MB-OFDM.
- Proposed performance enhancements for MB-OFDM systems, based on Turbo error-correcting codes and bit-loading modulation schemes, and quantified the resultant performance gains.
- Designed and implemented simulators for the physical layer of MB-OFDM and WiMAX systems in C and Matlab.

Project Supervisor

09/2005–01/2008

Department of Electrical and Computer Engineering, University of British Columbia, Vancouver BC

- Supervised the projects of several fourth-year undergraduate students and co-supervised graduate students.
- Created project topics, guided progress, and evaluated student performance.

Teaching Assistant

09/2003–12/2007

Department of Electrical and Computer Engineering, University of British Columbia, Vancouver BC

- Held tutorials, marked assignments, and proctored exams.
- Course: Signals and Systems (introduction to signal processing) - 10 semesters.

Sessional Instructor

05/2003–08/2003

Department of Computer Science, University of Western Ontario, London ON

- Taught two second-year courses:
 - Fundamentals of Computer Organization (assembly language programming);
 - Software Tools and Systems Programming (UNIX tools and C programming).

Teaching Assistant

09/2001–04/2003

Department of Computer Science, University of Western Ontario, London ON

- Courses: Fundamentals of Computer Organization (4 semesters), Software Tools and Systems Programming (1 semester), Operating Systems (1 semester).

EDUCATION

Ph.D. (Electrical Engineering), 2008

University of British Columbia, Vancouver BC

B.E.Sc. (Electrical Engineering, Wireless Communication Option, with distinction), 2003

University of Western Ontario, London ON

B.Sc. (Computer Science, with distinction) — concurrently with Engineering, 2003

University of Western Ontario, London ON