

KAREEM SHEHATA

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kareem@shehata.ca

73 Fire Route 42
Buckhorn, ON K0L 1J0
Canada

Profile

Senior software and product engineer with over 15 years industry experience.

Skills

- Certified ScrumMaster
- Software Development in C/C++, Java, C#/VB.NET, Python
- Circuit design in both analog and digital domains
- System integration and debugging, including new hardware bringup
- Team leadership and project management

Experience

Senior Software Engineer, Google Belo Horizonte, BR, 2015-2019

- Led design and implementation of new service within Google Web Search for getting direct user feedback at scale that does not require analysts to code
- Designed improvements to Google Web Search for handling language mismatches between query and interface languages, implemented on the actual Google search stack, and ran experiments to determine effectiveness
- Led the design and implementation of a new data pipeline for analyzing data logged from the world's largest knowledge app, handling billions of interactions and petabytes of data per day

Lead Software Developer, Clearpath Robotics Kitchener, ON, 2014-2015

- Lead team to develop large autonomous vehicle for mining industry
- Planned project, including scope, resources, and timing
- Worked directly with customer to determine true requirements
- Designed software architecture and planned implementation
- Guided and reviewed implementation of the team's software code
- Implemented comm. structures, sensor interfaces, and vehicle control
- Key technologies: ROS, Robot Simulation, Embedded Linux, Lidar, Radar, Python, embedded C/C++

Chief Technology Officer, Dandy Kitchener, ON, 2013-2014

- Led development of new mobile app through the Dandy process
- Selection of development team, product design, and implementation on iOS, BB, Android, and backend services
- Simultaneously managed development of the Dandy web platform, including new features and maintenance
- Evaluated app ideas and provided feedback to the CEO and partners
- Key technologies: iOS, Android, BlackBerry, Objective-C, Java (Android), C++ (BB), Python, virtual web services

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Senior Software Developer, Aeryon Labs Waterloo, ON, 2008-2013

- Lead software development for Scout and SkyRanger platforms
- Implemented Agile development process and continuous integration
- Designed and implemented new architecture for Mission Control Station, including pluggable mapping and video support
- Evaluated and lead introduction of new platform technology including Python, messaging services, and logging services
- Key technologies: Embedded Linux, Linux Kernel Drivers, network programming and messaging, IP video (RTP/RTSP), Python, Java/Swing, embedded C/C++

Independent Consultant Waterloo/Toronto, ON, 2006-2007

- Provided software and systems development expertise to client projects
- Projects typically involved development of new or modification of existing software systems based on customer specifications
- Clients included: JMP Engineering, Scotiabank Jamaica, Parmalat, TMMC
- Key technologies: C#, MS SQL Server, Oracle PL/SQL

Control Systems Software Designer, ATS Advanced Systems

Cambridge, ON, 2004-2006

- Lead software development for several advanced automation projects
- Designed architecture and implemented software control solutions
- Key technologies: QNX, software PLCs, Visual Basic, machine vision, Stäubli robotics, motion control

Hardware Designer, Archonix Toronto, ON, 2003-2004

- Hardware designer for aerospace APU motor controller and simulator
- Designed and oversaw construction of motor simulator project, including requirements analysis, circuit design, construction, and verification
- Key technologies: analog and digital circuit and board design, VHDL

Education

University of Waterloo — B.A.Sc. Electrical Engineering, 2003

Honours With Distinction, Computer Engineering Option, GPA 3.78

Publications

Gariepy, R.C., Shehata, K., Mukherjee, P., Tod, A., Thomas, T. and Ma, Y., Clearpath Robotics Inc, 2016. Self-Calibrating Sensors And Actuators For Unmanned Vehicles. U.S. Patent 20,160,129,917.

McLeod, T., Samson, C., Labrie, M., Shehata, K., Mah, J., Lai, P., Wang, L. and Elder, J.H., 2013. Using video acquired from an unmanned aerial vehicle (UAV) to measure fracture orientation in an open-pit mine. *Geomatica*, 67(3), pp. 173-180.

Shehata, K., Thiffault, M., Pike, J.T., Peasgood, M. and Nagy, T., Aeryon Labs Inc., 2013. System and method for controlling unmanned aerial vehicles. Canada Patent Application CA 2872698 A1.

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Talks

[Canadá por Presidente do Brasil 2016](#), 4 June 2016, YouTube (Portuguese)

[Dr. Strangecode, or: How I Learned To Stop Worrying and Love the NSA](#), 22 October, 2013, Ignite Waterloo

[Live Demonstration of the Aeryon Scout Live-streaming Video and Tele-Operation](#), 21 March 2012, TEDxWaterloo

[Scout Static Demo and Talk to KwartzLab](#), 29 November 2011, KwartzLab

[Lessons Learned from Flying That Have Nothing To Do With An Airplane](#), 3 March 2010, Ignite Waterloo

[Micro-UAV's and the Future of Aviation](#), 30 January 2010, YouTube

Awards

- 2003 University of Waterloo ECE Fourth Year Design Contest, Runner-Up
- 2001 University of Waterloo Engineering Faculty Deans Honour List
- 2001 NSERC Undergraduate Student Research Award
- 1998 University of Waterloo Engineering Faculty Deans Honour List
- 1998 Waterloo Cooperative Residence Pine Cone Citizenship Award
- 1998 Best of School, Descartes Mathematics Contest