Sean Braley

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Highlights

- Seasoned developer in human computer interaction.
- Experience taking designs from idea to prototype.
- Demonstrated analytical and problem solving skills.
- Proven ability to communicate effectively through presentations and documentation.
- Diverse skill set with a broad exposure to hardware and software platforms.
- Queen's University, Computer Science, BSc., MSc., with a specialization in human-computer interaction.

Knowledge, Skills and Abilities

- Proven ability to provide guidance and support to staff by leading several technical projects from beginning to completion, with projects ranging in scope from three months to two years and covering a range of technical subjects including mobile devices, multi-device, data sharing, user studies, and reports.
- Extensive presentation and technical writing experience, including the writing and editing of several published papers, technical manuals, patent disclosures, project proposals, visualizations, and video demonstrations.
- Demonstrated analytical thinking through successful management of technical projects that required evaluation of problem/domain space and programming solutions and configuration of both hardware and software.
- Financial skills including budgeting and purchasing demonstrated through purchasing of goods and negotiating service agreements with third parties, with experience working under restrictive purchasing scenarios and in compliance with governmental regulations.
- Understanding of business requirements, able to interface with business units at different levels to evaluate needs and compile into project plans.
- Experience adapting quickly to changing environments, demonstrated through numerous successful back-to-back projects with different technologies, for example: moving from multi-device interaction to eye tracking.
- Able to work in a fast-paced environment with dynamic and evolving needs, prioritize tasks, and deliver on required outcomes on short notice.
- Knowledge of intellectual property (IP) generation including writing of patent disclosures, creation of exemplary drawings for use by patent agents, and review of final patent drafts; shown through several published patents.

Other Skills and Experience

- Technical documentation creation and editing; Microsoft Word, Google Docs, Markdown.
- Vector graphics creation and editing; Adobe Illustrator, Affinity Designer, Figma.
- Fundamental video editing; Davinci Resolve.
- Wireframes and mockup generation; Figma, Adobe XD.
- Usability assessment and testing.
- Full-stack software development, software architecture and multi-platform library development.
- Competency in Python, Kotlin, C++, C#, Swift, TypeScript, JavaScript, and Java.
- Experience with Android, iOS, Windows, macOS, Linux, and embedded platforms.
- Data acquisition, management and storage; Python, Pandas, SQL, document store.
- Database management and interfacing; MicrosoftSQL, MySQL, Postgres, MongoDB.
- Computing infrastructure: Virtual Private Networks, firewalls, public key usage, network communications protocols, network architecture, physical and virtual servers.
- Expert domain knowledge in: computer vision, eye tracking, machine learning, database development networking, control systems.
- VICON (motion capture) systems.
- 3D printing, laser cutting, and soldering.

Professional History

2020-2023 Huawei Technologies Canada Co., Ltd., Consumer Business Group
Huawei Technologies is a multinational consumer device manufacturer headquartered in Shenzhen, China. Huawei's Consumer Business Group is responsible for creating end-user products such as smartphones, tablets, wearables and IoT devices. Huawei Technologies Canada Co., Ltd. is a subsidiary of Huawei Technologies, and the Consumer Business Group is managed by Huawei Technologies (China).

Senior Researcher
Responsible for creating prototypes of next-generation products. Led several breakthrough projects from ideation through development to written / video documentation and final presentation. Capitalized on rapid adoption of novel technologies to drive innovation. Authored patents relating to interaction methods and technical implementations. Provided guidance to junior team members. Reported to the Director of HCI Research, Canada.

- Recipient of internal innovation award,
- 12 patents (9 pending, 3 filed),
- Assisted with technology of 5+ other patents.

2015-2020 Human Media Lab, Inc.
The Human Media Lab, Inc. (http://humanmedialab.com) is a boutique design firm specializing in interactive experiences built on novel technologies. Work from the Human Media Lab, Inc. has been featured world-wide including live interactions developed in collaboration with LEGO and with El Hormiguero.

Researcher [Consulting]
Worked as a team to design interactive experiences. Created, managed and operated on-site and on-location demonstrations of new technology / experiences at international events. Responsible for novel research, development of software platforms for demonstration technologies (prototypes), writing academic papers, developing systems, maintenance and management of computer systems, and administration of logistics.

- Demonstrated at ACM conferences UIST & CHI, Founders Forum UK 2016 & 2019, LEGO World Expo 2017 & 2018, El Hormiguero (Spain) 2018 & 2020,
- Work featured by CBC Television & Daily Planet,
- Co-authored 6 papers published at ACM accredited conferences.

2012-2017 Redline Communications [acquired by Aviat Networks]
Redline Communications provides specialized durable wireless connectivity solutions, including point-to-point and point-to-multipoint backhaul networks, and private networks. Redline Communications was acquired by Aviat Networks.

Product Lifecycle Management (PLM) Technologist
Created a digital transformation of the product lifecycle management (PLM) system with report and automation features for documentation, reports, pricing, order information, costs/margins, and export to other critical systems. Resolved businesses needs into design, then implemented a full stack web user interface solution. Allowed faster and more efficient business cycles and interfacing with other departments.

- Implemented a full stack web user interface solution for PLM business flows,
- Integrated with MicrosoftSQL database and VPS systems,
- Created, updated and distributed technical documentation.

2012-2014 Alma Mater Society of Queen's University
The Alma Mater Society (http://myams.org) is an organization with over 275 full and part time employees, providing goods and services for the 16000+ students attending Queen's University.

IT Officer
Managed IT team by coordinating IT related projects, consulting with council members on projects, creating capital expenditure reports for the Board of Directors, managing service agreements (SLAs) with Queen's IT Services.

- Managed a team of 10 employees and oversaw IT for an organization of over 275 employees,
- Improved operating costs by migrating to Office 365,
- Increased accountability and response with a ticketing system.

Education

2015-2018 Queen's University, Master of Science: Human Computer Interaction
Primary Research: BitDrones OS A Programmable Matter System.

2011-2015 Queen's University, Bachelor of Computing (Honours)

Published Papers

Designed and coded one of the world's first fully 3D tangible display / programmable matter system as part of the BitDrones OS research project, which enabled direct touch-based control of a 15+ unit drone swarm.

Flying LEGO Bricks: Observations of Children Constructing and Playing with Programmable Matter

TEI '20: Proceedings of the Fourteenth International Conference on Tangible, Embedded, and Embodied Interaction, February 2020, pp 193-205. https://doi.org/10.1145/3374920.3374948

LightBee: A Self-Levitating Light Field Display for Hologrammatic Telepresence

CHI '19: Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems, May 2019, Paper No.: 12, pp 1-10. https://doi.org/10.1145/3290605.3300242

GridDrones: A Self-Levitating Physical Voxel Lattice for Interactive 3D Surface Deformations

UIST '18: Proceedings of the 31st Annual ACM Symposium on User Interface Software and Technology, October 2018, pp 87-98. https://doi.org/10.1145/3242587.3242658

GridDrones: A Self-Levitating Physical Voxel Lattice for 3D Surface Deformations

CHI EA '18: Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems, April 2018, Paper No.: D200, pp 1-4. https://doi.org/10.1145/3170427.3186477

BitDrones: Towards Using 3D Nanocopter Displays as Interactive Self-Levitating Programmable Matter

CHI '16: Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems, May 2016, pp 770-780. https://doi.org/10.1145/2858036.2858519

BitDrones: Towards Levitating Programmable Matter Using Interactive 3D Quadcopter Displays

UIST '15 Adjunct: Adjunct Proceedings of the 28th Annual ACM Symposium on User Interface Software & Technology, November 2015, pp 57-58. https://doi.org/10.1145/2815585.2817810

Published Patents

Systems, methods, and media for eye tracking using statistically derived linear functions.

US20220391012A1 https://patents.google.com/patent/US20220391012A1/en

Method, terminal and computer readable storage medium for searching application object.

CN112134995A https://patents.google.com/patent/CN112134995A/en

Content sharing method and device.

CN112130788A https://patents.google.com/patent/CN112134995A/en