Ben Rombaut

SOFTWARE DEVELOPER · SOFTWARE ENGINEERING RESEARCHER

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Professional Profile

A competent software developer and researcher with hands-on experience in both academia and industry. Passionate about building reliable, scalable, and maintainable software that improves the lives of others. Primarily interested in research centred around the software engineering discipline, including software evolution & maintenance, dependency management, and software bots, with budding interests in software engineering for healthcare and medical informatics. I am always looking to further my knowledge of best principles and practices in the domain of software engineering and apply them in challenging and fast-paced environments.

Education

Master of Science, Computing   *Kingston, ON*

QUEEN'S UNIVERSITY   *Sept. 2020 - May. 2022*

- *Thesis* — Studying the overhead and crowd-sourced risk assessment strategy of dependency management bots
- *Supervisor* — Dr. Ahmed E. Hassan, Software Analysis and Intelligence Lab (SAIL)

Bachelor of Science, Software Engineering   *Fredericton, NB*

UNIVERSITY OF NEW BRUNSWICK   *Sept. 2014 - May 2019*

- *Faculty of Computer Science* — Co-operative Education Program

Research & Teaching Experience

Software Engineering Researcher   *Kingston, ON*

HUAWEI TECHNOLOGIES CANADA CO., LTD.   *Dec 2021 - Present*

- Member of the Centre for Software Excellence.
- Conduct research related to software engineering for high-performance and heterogenous computing systems.

Head Teaching Assistant   *Kingston, ON*

CISC221 - COMPUTER ARCHITECTURE, QUEEN'S UNIVERSITY   *Sept. - Dec. 2020, Jan. - Apr. 2021 and*
                                                                                                 Sept. - Dec. 2021

- Main point-of-contact with the students and course instructor. Handled all inquiries from students in a timely manner.
- Responsible for coordinate all teaching assistant duties including allocating work to the rest of the teaching team, monitoring class channels, answering student questions, handling re-grading requests, and ensuring marking deadlines are met.
- Held office hours, ran tutorials, and graded assignments and exams.

Undergraduate Research Assistant   *Fredericton, NB*

HUMAN-COMPUTER INTERACTION LAB, UNIVERSITY OF NEW BRUNSWICK   *May 2017 - Aug. 2017*

- Research assistant to both Assistant Professor Dr, Scott Bateman of the Human- Computer Interaction (HCI) lab and Assistant Professor Dr. Erik Scheme of the Institute of Biomedical Engineering (IBME).
- Aided MCS, MEng and PhD students conduct research and participated in multiple research experiments at both the HCI lab and the IBME.
- Primary developer responsible for design and development of the tablet application used to effectively display data generated from a 'Smart Cane'. Primary technologies used include Java, SQLite and Bluetooth Low Energy.

Work Experience

Software Developer
Eigen Innovations Inc.

Fredericton, NB
May 2019 - May 2020

- Full stack development of client-specific AI-enabled quality inspection and data connectivity software solutions deployed in manufacturing facilities on multiple continents.
- Spearheaded processes for capturing best development practices in a way of coding standards and feedback from other developers and created the team's code style guide.
- Reviewed the quality of other developer's and engineer's code to ensure the readability, maintainability and effectiveness of the code base.

Front-End Developer (Co-op)
Eigen Innovations Inc.

Fredericton, NB
May 2018 - Aug. 2018

- Actively contributed to the development and design of the Eigen's primary data visualization desktop and mobile web application using the Vue.js framework.
- Responsible for ensuring new client-side features adhered to customer requirements and improving product aesthetic and UX of new and existing features.
- Worked closely with the back-end team to develop reliable and scalable RESTful APIs, as well as ensure all API documentation was up to date.

Quality Assurance Analyst (Co-op)
Siemens Canada

Fredericton, NB
Sept. 2016 - Dec. 2016

- Responsible for design and execution of well-defined test cases to ensure new product features contained the required functionality.
- Logged defects with clear, concise detail and verified resolved defects in a timely fashion.
- Aided with regression testing prior to major product releases.

Software Developer & IT Support (Co-op)
Brunswick News

Fredericton, NB
Jan. 2016 - Apr. 2016 and
May 2015 - Aug. 2015

- Independently developed reliable internal business web applications used heavily by the company.
- Maintained legacy FoxPro business applications and ported deprecated applications to C#.
- Provided constant technical support for multiple in-house developed web applications and software related issues, as well as time-sensitive on-site technical support to employees.

Publications

Peer-reviewed Journal Papers

- Benjamin Rombaut, Filipe R. Cogo, Bram Adams, and Ahmed E. Hassan. *There's no such thing as a free lunch: Lessons learned from exploring the overhead introduced by the Greenkeeper dependency bot in npm.* ACM Transactions on Software Engineering and Methodology (TOSEM). Feb. 2022

Presentations

University of New Brunswick Engineering Design Symposium
Fredericton Convention Center

Fredericton, NB
Apr. 2019

- Presented technical overview of "Bloom", a software platform that businesses build and manage their company culture, which was developed as an engineering capstone project.
- Discussed technologies and processes used during development and responded to questions from senior developers and technical management employees from top local technology firms.

Faculty of Computer Science Research Exposition
Wu Conference Center, University of New Brunswick

Fredericton, NB
Apr. 2019

- Invited to demo a website I build for a software security course that was vulnerable to cross-site scripting (XSS) and SQL injection attacks, as well as present common practices for mitigating these attacks.

Projects

Ben Rombaut - Personal Website
- My personal website I built using Vue, available at `http://benrombaut.ca`.
- Includes content about me, my bookshelf showcasing books I've read and am currently reading, blog posts, how-to guides and articles I've written, and links to other software packages I've created.
- Full CI/CD integration to make adding new content a seamless process.

F3 - Firebase Firestore Facade
- A project I built that serves as a facade between the official Firebase **npm** package and the client project.
- Provides a simplified CRUD interface for the Firestore submodule that requires minimal setup for clients to start using.
- Built using TypeScript and available on npm at `http://npmjs.com/package/firebase-firestore-facade`.

Article Scraper
- A project I built that scrapes articles on popular blogging sites for their meta-data (e.g., title, time-to-read, tags).
- Currently supports scraping article data from `http://dev.to`, with plans to extend the package to support additional blogging sites.
- Built using TypeScript and available on npm at `http://npmjs.com/package/article_scraper`, with a demo site at `http://brombaut.github.io/article-tracker`.

Honours & Awards

R.S McLaughlin Fellowship, Queen's University	*2020*
Dean's List - all semesters, Queen's University	*2020 - 2021*
Dean's List - all semesters, University of New Brunswick	*2014 - 2019*
Edwin Jacob Special University Scholarship, University of New Brunswick	*2014 - 2019*
Undergraduate/Medical School Summer Studentships, The New Brunswick Health Research Foundation (NBHRF)	*2018*
George L. White Memorial Scholarship, University of New Brunswick	*2018*
Sir George E. Foster Scholarship, University of New Brunswick	*2018*
Industrial Undergraduate Student Research Award, NSERC	*2017*
General Scholarship, University of New Brunswick	*2016*
Mr. & Mrs. Conrad J. Osman Scholarship, University of New Brunswick	*2015*
Eldon and Maxine Clair Scholarship in Computer Science, University of New Brunswick	*2014*