







Jesse WARD-BOND

Process Engineer | Biochemist

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 Ottawa, Ontario, Canada
 Volleyball, Trivia, Fantasy/Sci-fi, Extremely Spicy Food

SKILLS

Programming	Python (NumPY, Pandas), R (ggplot, dplyr), Javascript (React), HTML5, CSS, Java, VBA, \LaTeX
Software/Tools	Git, Jupyter, Anaconda, Visual Studio, R Suite, Arduino, UniSym/Hysys, SAP
Languages	English (fluent), Mandarin (int.), French (beg.), Korean (beg.)

EDUCATION

2012-2018 **BASc Chemical Engineering & BSc Honours Biochemistry**
University of Ottawa

A six-year (with co-op), 62-course, double major covering the entirety of both the Chemical Engineering and Biochemistry curriculums. Completed in April 2018 Magna Cum Laude (CGPA 8.8/10).

Chemical Engineering courses included: Java, C, VBA, Probability and Statistics, Ordinary Differential Equations, Calculus I-III, Numerical Methods.

Biochemistry courses included: Protein Structure and Function, Genomics, Patent preparation, Seminars, Organic/Analytical/Physical Chemistry, Biosensors, Technical Writing.

PROFESSIONAL EXPERIENCE

Present
October 2018

Applications Engineer - Spartan Controls

Vancouver, Canada

- Responsible for CAD 1.5 million per year in sales of process-control equipment
- Developed and maintained relationships with key customer accounts to drive business
- Hosted instructional seminars for 50+ customers to educate and build product loyalty
- Maintained an up-to-date knowledge of hundreds of products to quickly size and select process control equipment for customers
- Managed dozens of simultaneous customer requests daily
- Used VBA to automate previously manual data-transcription tasks, and to extract useful info from customer-supplied datasets.

Fisher Valve Sizing Engineering Sales VBA SAP P&IDs

March 2018
December 2018

Research Assistant, Surface Plasmon Photonics Lab - University of Ottawa

Ottawa, Canada

- Designed and implemented experimental protocols to solve a critical problem in biosensor fabrication
- Performed digital image analysis of Fluorescence microscopy results with ImageJ, and analyzed/reported results with R.
- See publication section, "Non-specific adsorption..."

Fluorescence Microscopy ImageJ R

May 2016
January 2016

Research Assistant, Organic Photocatalysis Lab - Tianjin University

Tianjin, China

- Studied Mandarin Chinese to help communicate complex topics across a language barrier
- Rapidly familiarized myself with the fabrication and electronic properties of organic semiconductors for photocatalysis
- See publication section, "g-C₃N₄@ α -Fe₂O₃..."

FTIR XRD XPS SEM

May 2017
September 2016

Research Lead, Solid-Associated Oil-Sand Proteins - University of Ottawa

Ottawa, Canada

- Developed and lead a project investigating proteins trapped in oil sands in order to develop novel bioremediation and tertiary recovery techniques
- Pitched my project to international investors and a panel of judges

Lit. Reviews HPLC-MS BCA Assays Poster presentations

PUBLICATIONS & MAJOR WORKS

Rashid, S., **Ward-Bond, J.**, Krupin, O., Berini, P. 2020. *Non-specific adsorption of protein to microfluidic materials*. Manuscript Submitted for Publication.

Wu, Y., **Ward-Bond, J.**, Li, D., Zhang, S., Shi, J. and Jiang, Z. 2018. g-C₃N₄@ α-Fe₂O₃/C Photocatalysts: Synergistically Intensified Charge Generation and Charge Transfer for NADH Regeneration. *ACS Catalysis*, 8(7), pp.5664-5674.

Ward-Bond, J., Altosaar, I. 2018. Solid-Associated Proteins in the Athabasca Oil Sands – Undergraduate Thesis. *University of Ottawa*.

Ward-Bond, J., Colin, J., Yelle, N. 2015. Anesthetic Hypodermic Needle Cover – Patent Application No. 14975267 – Lapsed. *USPTO*

PROJETS

FUEL FOR FAT LOSS

2018-PRESENT

 <https://fuelforfatloss.com/>

Managed and built a landing page, website, membership portal, and marketing materials for the creator of the Fuel for Fat Loss program - a west-coast based online nutrition/fitness/lifestyle coaching program used by hundreds of clients. Developed in Squarespace with customized HTML/CSS/JS for differentiation.

HTML CSS JS Instakart Squarespace

HDI-TABLE-SCRAPER

2019

 github.com/jwardbond/HDI-table-scraper

Built a web scraper in R to pull course data from HDI's online course calendar. Currently used by HDI partner Radar Solutions Group to build custom course calendars.

R magrittr rvest xml2

AVOCADO-DATA-EXPLORATIONS

2018

 github.com/jwardbond/avocado-data-explorations

A practice project in R to familiarize myself with some common graphing packages, regex, and set operations. Wrote scripts to clean-up, display, and explore a dataset from The Hass Avocado Board.

R ggplot maps

AWARDS

2012-2018 Dean's List - *University of Ottawa*

2012-2018 Admissions Scholarship - *University of Ottawa*

2018 Finalist - *Professional Engineers Ontario Water Purifier Competition*

2018 Most Innovative - *University of Ottawa Senior Engineering Design Competition*

2017 1st Place - *University of Ottawa Startup Weekend*

2017 Best Poster Presentation - *University of Ottawa Biochemistry Poster Competition*

VOLUNTEERING

2018-Present **Engineers and Geoscientists BC Outreach**

Currently volunteering to present to classes of children (gr. 6-8) and to lead them in hands-on activities to introduce them to Chemical Engineering.

2014-2017 **University of Ottawa**

Helped new students move in to uOttawa. Recognized for exceptional performance.