



# Andrew Dworschak

**Date of Birth:** January 9, 1996

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## EDUCATION

**Bachelor of Applied Science in Engineering Physics, Minor in Entrepreneurship**

**Sept 2014 – May 2019**

*University of British Columbia (UBC), Vancouver BC, Canada*

- Cumulative GPA: 92.3%.
- Credit units: 192.

## CONFERENCES

- M. Zare, **A. Dworschak** and I.A. Frigaard “Onset of air invasion into an elastoviscoplastic fluid.” Poster presented at AERC 2018, Sorento, Italy, April 17-20, 2018.

## RESEARCH EXPERIENCE

**Technical Analyst**

**May 2018 – Present**

*Centre for Operations Excellence at the Sauder School of Business, UBC, Vancouver BC, Canada*

- Researched and applied algorithms in machine learning and statistics to solve data-driven problems for our industry partners.
- Improved truck efficiency by interpreting mining activities as an optimization problem on a directed graph.
- Analyzed customer behaviour by applying filtering techniques to geospatial wi-fi data.
- Classified claimant text data using Word2Vec and Latent Dirichlet Allocation with informative priors.

**Complex Fluids Research Engineer**

**May 2017 – Aug 2017**

*Fluid Mechanics Laboratory, UBC, Vancouver BC, Canada*

- Performed experiments to describe the process of pressurized fluid invasion into a well of Carbopol gel.
- Developed a software system in C++ to control experimental equipment precisely and automate data collection.

## ENTREPRENEURIAL EXPERIENCE

**Automated Fitness Tracking with Machine Vision**

**July 2017 - Present**

- Using depth-sensing cameras, my team prototyped an end-to-end solution to characterize a gym user's exercises, weights, and repetitions performed. This data is automatically uploaded to generate a fitness profile for the user.
- Used Python and TensorFlow for machine-vision. Used AWS, Swift and Flask to manage fitness profiles.
- Awarded the Bycast Award for Entrepreneurship for creating a product with exceptional business value - \$10,000.
- Awarded the UBC Design and Innovation Day Industry Award for a successful live demo - \$600.

**Physics-Based iOS Applications**

**Dec 2015 – Dec 2016**

- Launched the physics-based puzzle game SQNCE into the iOS App Store, generating revenue with an ad-server.
- Self-taught the Swift programming language and Model View Controller framework for application development.

**Painting Franchise Owner**

**Oct 2014 – Aug 2015**

- Managed hiring, training, marketing, sales, production and accounting.
- Generated \$50,000 in revenue and \$15,000 in net profit over a 3-month period.

## OTHER PROFESSIONAL EXPERIENCE

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### Creative Engineer

Aug 2017 – Dec 2017

*Logic & Form at the Indian Residential School History and Dialogue Centre, UBC, Vancouver BC, Canada*

- Planned system architecture and developed software for an interactive digital museum.
- Gathered stakeholder feedback to help create an appropriate, educational history of Indian Residential Schools.

### Biomedical Engineer

Jan 2016 – Apr 2016

*Arbutus Medical, Vancouver BC, Canada*

- Helped to develop low-cost surgical tools for use in developing countries.
- Leading R&D for the Drill Cover System 2, I invented mechanical components for the flagship drill cover product.

## AWARDS AND HONOURS

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### University of British Columbia

- |   |                       |
|---|-----------------------|
| • Trek Excellence Scholarship.                | Sept 2015 – Sept 2018 |
| • Dean's Honour List.                         | May 2015 – May 2018   |
| • Carl and Elsie Halterman Scholarship.       | May 2018              |
| • Charles and Jane Banks Scholarship.         | Oct 2017              |
| • Jimmar Memorial Scholarship in Engineering. | Oct 2016              |
| • Lorne Manning Hill Memorial Scholarship.    | Nov 2015              |
| • British Columbia Provincial Scholarship.    | Sept 2014             |
| • Chancellor's Scholar designation.           | June 2014             |

### City of Richmond

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|---|-----------|
| • Richmond Sunrise Rotary Scholarship.                    | June 2014 |
| • Richmond Youth Basketball League Scholarship.           | June 2014 |
| • U-ROC Award for Outstanding Youth Recreational Leaders. | May 2013  |

### Elite Mentors Association

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| • Future Young Scientist/Engineer Award - Elite Scientists and Engineers Mentorship Program. | Jan 2014 |
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## COMPETITIONS

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| • UBC Engineering Competition: 1 <sup>st</sup> Place Senior Design.      | Oct 2018 |
| • Canadian Engineering Competition: 2 <sup>nd</sup> Place Senior Design. | Mar 2017 |
| • Western Engineering Competition: 2 <sup>nd</sup> Place Senior Design.  | Jan 2017 |
| • UBC Engineering Competition: 1 <sup>st</sup> Place Senior Design.      | Oct 2016 |
| • Canadian Engineering Competition: 4 <sup>th</sup> Place Junior Design. | Mar 2016 |
| • Western Engineering Competition: 1 <sup>st</sup> Place Junior Design.  | Jan 2016 |
| • UBC Engineering Competition: 1 <sup>st</sup> Place Junior Design.      | Oct 2015 |