

# Bogdan Constantinescu, BAsC

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## EXPERIENCE

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### Active Learning Technician - Technical Services Team

01/23 – Now

*University of Calgary*

*Calgary, AB*

- Prepared lab equipment, conducted demonstrations, and guided students during experiments.
- Collaborated with instructors to develop active learning initiatives aligned with the curriculum.
- Offered technical support for students for 3D Printing, as well as arduino programming.
- Documented lab procedures, managed inventory, and ensured compliance with safety standards.

### Project Management

12/19 – 09/22

*XpertONE LTD.*

*Kitchener, ON*

- Manage total construction process from initial planning to project completion.
- Analyze project risks to mitigate their impact throughout the construction project lifecycle.
- Prepare estimates and manage procurement processes.

### Test & Process Engineer - Commissioning Team

02/18 – 08/18

*Angstrom Engineering*

*Kitchener, ON*

- Tested & operated thin-film deposition equipment for PVD and CVD.
- Developed test processes for high volume custom coating applications.
- Created a custom VBA program to automate the creation of commissioning forms used by all process engineers.

### Mining & Metallurgy Researcher

09/16 – 04/17

*Kingston Process Metallurgy*

*Kingston, ON*

- Designed and implemented simulations in Python for the development of a copper settling model.

### Nano Photonics & Quantum Optics

01/16 – 04/16

*Institute for Quantum Computing*

*Waterloo, ON*

- Designed and implemented an original circuit to power opto-mechanical shutters for waveguide applications.
- Experience in safe soldering, wiring, PCB design, optical design, circuit simulation, 3-D printing software and laser engraving.

## EDUCATION

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### University of Calgary

Calgary, AB

*Master of Engineering - Software Specialization*

*05/23 – 04/24*

### University of Waterloo

Waterloo, CA

*Bachelor of Applied Sciences in Nanotechnology Engineering - Co-op, Honors*

*09/14 – 04/19*

### Delft University of Technology

Delft, NL

*Masters in Chemical Engineering, International Exchange*

*09/17 – 01/18*

## PROJECTS

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### Full Stack Flight Reservation Web App | *Java, Javascript, MySQL, React, Node.js, Spring Boot* December 2023

- Developed a fully functional flight booking web application. Available to view on my personal Github page.
- Implemented the MVC architecture to accomplish this using React for frontend, Java, and MySQL for backend.
- Used Spring Boot for interacting with backend and Node.js for interfacing with frontend.

### Self-Driving Cars | *Python*

March 2019

- Learned about considerations for sensor data (RGB, LiDAR).
- Used OpenCV2 for lane detection of videos (Canny, Hough transform).
- Trained a scene segmentation network on an automotive dataset for labelling objects in a scene using Tensorflow.
- Deployed a simple real-time object detection model for autonomous vehicle data.

## TECHNICAL SKILLS

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**Languages:** Java, Python, C/C++, SQL, MATLAB, Javascript (Node.js)

**Frameworks:** Spring Boot, React, Scikit-learn, Apache Hadoop, Apache Spark, Tensorflow

**Developer Tools:** Git, Docker, PyCharm, VS Code, Eclipse

**Relevant Courses:** Advanced System Analysis and Software Design, Advanced Software Design and Architecture, Engineering Large Scale Data Analytics Systems, Machine Learning for Software Engineers, Databases and Database Design, Data Mining and Machine Learning, Dependable and Reliable Software, Intro to Self-Driving Cars