



TORONTO, ONTARIO, CANADA  
(905) 630-9594 | [ioakeimkaltsidis@gmail.com](mailto:ioakeimkaltsidis@gmail.com) | [ioakeimkaltsidis.me](http://ioakeimkaltsidis.me)

# Ioakeim N. Kaltsidis

## SKILLS

---

### Technical

---

- Proficient coding capabilities (Python, C, Swift, Arduino, Visual Basic, VHDL, Ubuntu, ROS)
- Experienced with SolidWorks, AutoCAD, MATLAB, Simulink, LabVIEW, ANSYS, Xilinx ISE
- Designed and tuned PID controllers for course and laboratory projects
- Skilled in technical report writing, data retrieval, quantification, and analysis
- Laboratory experience through courses (Robotic Systems, Advanced Mechatronics Systems Design, Digital Process Control Design)
- Developed HMI for robotics and mechatronics lab experiments
- Experienced with implementing and debugging circuitry utilizing oscilloscope, function generator, multimeter and soldering iron
- Capable of adhering to project constraints while introducing feasible and innovative solutions

### Communication & Organization

---

- Effective written and oral communication skills gained through formal presentations
- Interpersonal skills to encourage productive work environments
- Trilingual: fluent in English, Greek and Japanese
- Manages time by prioritizing tasks for maximum productivity
- Contributes quality work in high pressure environments

## EDUCATION

---

### Master of Engineering Candidate (M.ENG), Mechanical and Industrial Engineering (MIE)

University of Toronto, 27 King's College Cir, Toronto, ON, CA March 2019 – Anticipated April 2021

- Emphasis in Robotics (Courses: Motion Planning for Robotics, Control for Robotics, Advanced Mechatronics, State-Estimation for Aerospace Vehicles, Intelligent Robots for Society)

### Master of Applied Science Candidate (M.A.Sc.), Mechanical and Industrial Engineering (MIE)

University of Toronto, 27 King's College Cir, Toronto, ON, CA Sept 2019 – March 2020

- Research area in multi-robot coordination (UAV-UGV) for mobile target search applications

### Bachelor of Engineering, Major in Mechanical Engineering (BENG.MECH)

University of Guelph, 50 Stone Rd E, Guelph, ON Sept 2015 – June 2019

- Dean's Honors List – Winter 2017, Winter 2018, Winter 2019
- Specialized in the Mechatronics, Robotics and Sustainable Energy streams

#### Mechatronics Systems Design Project Jan 2018 – April 2018

- Successfully designed and constructed a nut and coin sorting machine, utilizing stepper motor, motor controller and servo interfaced with an Arduino Mega 2560 microcontroller

#### Digital Process Control Design Project Jan 2019 – April 2019

- Successfully designed and implemented a controller for a Cross Coupled 4-Tank System utilizing MATLAB for system simulation and Simulink for controller implementation

#### Advanced Mechatronics Systems Design Project Jan 2019 – April 2019

- Successfully designed and constructed an autonomous gliding plane, utilizing 5 mini-servos for flight dynamics control, IMU sensor for orientation and Arduino Nano microcontroller

#### Mechanical Engineering Capstone Design Project Sept 2018 – April 2019

- Designed and manufactured an impact loading drop tower tester for research involving auxetic material applications
- In charge of all electronics used for machine functionality and data acquisition

## **PROFESSIONAL EXPERIENCE**

---

### **Research Assistant – Robotics Institute**

University of Guelph, 50 Stone Rd E, Guelph, ON

Jan 2019 – April 2019

- Neural network methodologies utilizing TensorFlow and Keras for image classification applications
- Image augmentation and resolution converting low-resolution images to super-resolution images

### **Research Assistant – Mechanical Research Lab**

University of Guelph, 50 Stone Rd E, Guelph, ON

Sept 2018 – Dec 2018

- Performed sensor integrations for bioreactor system designed to sustain biological organisms
- Utilized LabVIEW for real-time data graphing and interpretation
- Designed permeable tube mount for mass transfer of nutrients into system

### **Research Associate – Institute of Automation and Applied Informatics (IAI)**

Karlsruhe Institute of Technology, 76131 Karlsruhe, Germany

May 2018 – Aug 2018

- Selected as 1 of 18 students across 9 Ontario universities to take part in the Ontario – Baden Württemberg Summer Research Exchange Program
- Contributed to research project for System Integration for Nanophotonic Systems
- Optimized and designed an automated high precision adhesive dispensing and UV light curing process system for micro and nanophotonic applications (photonic wire bonds)
- Developed automation recipes utilizing Python and TwinCAT software
- Utilized MATLAB to develop light ray simulations for polymerization testing of adhesives
- Designed, developed, and implemented custom parts into system utilizing Creo Parametric modeling software and heavy machining tools
- Collaborated with various international researchers and industry professionals

### **Sobotec Advanced Manufacturing Team – Co-op Student**

Sobotec Ltd., 67 Burford Rd, Hamilton, ON

May 2017 – Sept 2017, May 2019 – Sept 2019

- Modelled 3D AutoCAD files of architectural layouts in SolidWorks
- Developed tooling and nesting abilities using NC Express Software
- Optimized manufacturing processes including material assembly and fabrication
- Coded programs for custom panel bending utilizing Bend Express software
- Operated heavy Prima Power manufacturing machinery including EBe Bending SG Shear

## **LEADERSHIP AND VOLUNTEER EXPERIENCE**

---

### **Professional Development Conference - Facilitator**

University of Guelph, 50 Stone Rd E, Guelph, ON

May 2017 – Feb 2018

- Responsible for the organization of the Professional Development Conference 2018, engaging 100 engineering students with professionals in their respective disciplines
- Planned speaker presentations, organized schedules and led the volunteer committee

### **Hyperloop Team – Captain of Frame**

University of Guelph, 50 Stone Rd E, Guelph, ON

Mar 2017 – May 2018

- Contributed to innovative pod design to be propelled in a vacuum as a potential method of human transportation
- Responsible for mechanical design of carbon fiber and aluminum pod frame

### **Robotics Team - President**

University of Guelph, 50 Stone Rd E, Guelph, ON

Nov 2016 – Oct 2017

- Led a team of engineering and computer science students to design, code and build various robotic devices for competition purposes

### **English Tutor**

University of Guelph, 50 Stone Rd E, Guelph, ON

Sept 2016 – April 2019

- Regularly met with Japanese international exchange students to enhance written and oral English communication skills including essay writing