Kosta Gianicos

Engineering Physics • McMaster University

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Education

B.Eng. in Engineering Physics (Co-Op)   September 2019 – April 2023
McMaster University   *Hamilton, ON*
- Pursuing Studies in Nanotechnology, Electronics, Quantum Applications
- Society for Engineering Research Executive

Relevant Courses

• Numerical Methods	• Quantum Mechanics	• Solid State Physics	• Circuits: Non-Linear Components
• Computational Multiphysics	• *Quantum Computing*	• *Semiconductor Devices*	• *Embedding Micro-Controllers*

Experience

Teaching Assistant   January 2021 – April 2021
McMaster Physics and Astronomy: Introduction to Electromagnetism and Waves   *Hamilton, ON*
- **Responsible** for marking and providing feedback for 15 student labs weekly, and for portions of midterm.
- Hosted weekly office hours to answer questions about course content and lab content. Content was based on first year level circuit analysis, Kirchhoff's laws, voltage dividers, introduction to capacitors, and more.

Research Assistant   May 2020 – July 2020
FyeLabs   *Hamilton, ON*
- Developed an **image processing algorithm** using **Python** and **C++** that converted points on a runway image (u, v) into real life (x, y, z) coordinates, to be sent to a **machine learning pipeline** for **safety authentication**.
- Increased productivity by assisting in the completion of **back-end** and **front-end** services for internal dashboard website by building API's in **Golang**, Creating Documentation, and using web frameworks such as **Vuetify** to develop key features.
- Attended multiple client meetings to develop knowledge on client collaboration, budgeting, and professionalism.

Research Assistant   July 2018 – August 2018
McMaster Engineering Physics   *Hamilton, ON*
- Participated in Dr. Ray LaPierre's research group on the topic of semiconductor nanowires.
- Created **computer vision** software with **Python** & **OpenCV** to compute yield & dimensions of nanowires on silicon wafers
- Formulated results in Power Point presentations among graduate level peers.

Projects

Ultrasonic Range Finder   December 2021
Circuits: Non-Linear and Active Components
- Designing an ultrasonic range finder using a combination of **digital and analog electronics** without micro-controllers.
- Communicating weekly progress reports that cover physics concepts, **timing / block diagrams**, circuit simulation analysis.

MATLAB Mathematical Method Algorithms   Fall 2021
Numerical Methods
- Completed weekly labs where proper **software design, and analysis** was used to develop MATLAB algorithms and complete highly detailed reports based on performance.
- Algorithms were based off of **mathematical methods** and tested against MATLAB's internal functions. The topics cover **solving complex systems of equations, numerical optimization, numerical integration**, and more.

Tools and Training

Hardware		Software		Safety	Office
• Oscilloscope	• Arduino Uno/Nano	• Maple CAS	• C ++	• WHMIS Training	• Microsoft Word
• Multimeter	• Circuit Testing	• MATLAB	• Git / GitHub	• First – Aid Training	• Excel Proficient
• Soldering	• Breadboard Design	• Python	• Arduino IDE	• Chemical Handling and Spills	• Microsoft Teams