Marco Kaniecki

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marcokaniecki.me

Education

Sep 2020 - Apr 2023	Bachelor of Electrical and Computer Engineering at Dalhousie University, in Halifax, NS, Canada Computer Engineering Stream
Sep 2018 - Apr 2020	Bachelor of Electrical and Computer Engineering years 1 and 2 at Karlsruhe Institute of Technology in Karlsruhe, Germany
Sep 2017 - Apr 2018	Bachelor of Electrical and Computer Engineering year 1 at Dalhousie University, in Halifax, NS, Canada
Sep 2014 - Jun 2017	Citadel High School, Halifax, NS, Canada
Sep 2011 - Jun 2014	Cornwallis/Halifax Central Junior High School, Halifax, NS, Canada
Sep 2005 - Jun 2011	Rideau Park Elementary School, Edmonton, AB, Canada (Bilingual education in German and English)

Publications

- Erin E. Chiasson, Marco Kaniecki, Johannes Koechling, Neelam Uppal, and Issam Hammad. "REALM: Automating Real Estate Appraisal With Machine Learning Models." Accepted for publication in the Proceedings of the 2023 IEEE World AI IoT Congress (AIIoT), May 2023.
  Awarded **Best Paper** in the category of Artificial Intelligence Tools and Application

Relevant Experience

Senior Year Project - Real Estate Appraisal Using Machine Learning Sep 2022 - Apr 2023

- Developed **full stack application** in team of four to use a combination of property images and related information for property valuation using **Python**
- Created Random Forest Regression Model, trained on previously appraised houses to make prediction
- Designed a sleek and intuitive user interface revolutionizing the appraisal process reducing time and money compared to traditional methods
- Engaged in ongoing communication with supervisor to provide progress reports
- Presented a 50-page report on project description, relevant literature, system description, project planning, testing, and analysis; recieved a grade of A+

XMX Emulator Apr 2022 - Aug 2022

- Emulated extension of original XM processor with twice as many registers in **C**
- Parts emulated include all CPU registers, 28 instructions, the program status word, addressing modes, encoded constants, 64KiB of byte-addressable primary memory, and CPU execution time
- Designed and implemented three new instructions for additional CPU register operations

Bitcoin Mining Simulator Apr 2022 - Aug 2022

- Created a multithreaded Bitcoin mining simulator in **C**
- Implemented thread synchronization through assigning different threads for different tasks
- Utilized priority-based scheduling along with aging to prevent task starvation
- Recieved a grade of A

Peter Gregson Design Challenge - Mine Sweeping Robot Apr 2022 - Aug 2022

- Designed and built (in a team of three) an autonomous robot tasked to disarm and dispose of mines, while avoiding contact with walls and simulated wildlife
- Placed top 10 out of 33 groups

Dalhousie Space Systems Lab June 2021 - June 2022

- Designed and built a CubeSat called LORIS (Low Orbit Reconnaissance Imagery Satellite); Funded $200,000 by Canadian Space Agency
- Active member of On-Board Computer (OBC)/Payload team of six people, assisting in the communication between processor and camera using **C/C++**

Automated Tea Steeper Jan 2021 - Apr 2021

- Designed and built (in a team of four) a device that lowers, steeps, and raises a tea bag automatically
- Programmed a microcontroller responsible for controlling various modules from a keypad matrix, speaker, to motion sensor, allowed a seamless tea making experience
- Evaluated overall performance and tweaked device for optimal use, efficiency, and user friendliness
- Documented work and presented a 40-page report on system architecture, detailed design, and performance; received a grade of A

Technical Skills

Programming	Python, C/C++, Assembly, React JS, Tailwind CSS, HTML
Documentation	LaTeX, Markdown
Version Control	Git
Design & Simulation	MATLAB, STM32CubeIDE, SolidWorks, iCircuit, LenLab, Intel Quartus Prime, ModelSim, LTSpice
Other	MS Office, GitLab, GitHub, VScode

Non-Technical Skills

Communication	Actively maintain communication in team projects to stay on track and plan ahead
Adaptability	Grasp new things quickly and open to try different approaches to a problem
Bilingual	English (fluent), German (native speaker)

Interests

Technical	Linux, Machine Learning, Cybersecurity
Fun	Cycling, Badminton, Skiing