

Adi Ravishankara

Research and Development Engineer

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WORK EXPERIENCE

Research and Development Engineer **Nov, 2021 - Present**

Vitalis Extraction Technologies *Kelowna, BC, Canada*

- Used Python, C++ and KDB+ to develop a low latency, automated (using ML methods) spectroscopic analyzer for process control
- Built ETL pipeline to handle various types of sensor data including, image, integer, float, and text simultaneously
- Developed and maintained detailed documentation for software, hardware and mechanical components
- Used CAD/EDA tools (Solidworks, Eagle) to develop custom components and hardware for system integration of new sensors and actuators
- Collaborated with customers and OEMs to validate and integrate critical sensing systems for in-line monitoring of extraction process
- Gathered and used market research data to build new connections, inform future business development, and apply for relevant grants

Lab Engineer **Jan, 2019 – Nov, 2021**

University of British Columbia *Kelowna, BC, Canada*

- Worked with industry partners as a subject-matter expert to develop novel solutions based on current research
- Trained, validated and launched numerous ML models trained on timeseries, categorical image, and multivariate numerical data
- Directed and trained numerous Research Assistants in research techniques, prototype development, and AI/ML model development
- Utilized rapid-prototyping techniques to generate proof-of-concept solutions in various fields (natural gas detection, H₂S monitoring in wastewater, microfluidic systems, lab-on-a-Chip PCR testing, capacitive touch sensing, MIP-based sensing) including custom hardware, embedded systems, software, wireless connectivity and HMI
- Investigated various avenues for chemical sensing and detection including spectrometry (FTIR, NIR, Raman, UV), MOS, electrochemical, molecule-imprinted polymers, microfluidic e-nose
- Successfully developed numerous proposals for government research grants totaling a value of \$1.5M

EDUCATION

Master of Applied Science in Mechanical Engineering **University of British Columbia**

Thesis: Development of a field-portable thin-layer chromatography based chemical analyzer for cannabinoid sample analysis

Bachelor of Science **University of Alberta**

Major in Physics, minor in Math

PROFICIENT SKILLS

Programming	Python, C++, Github, \LaTeX , R, MATLAB, ROS, SQL, Qt5/6, KDB+/Q
ML/MV	PyTorch, Keras, TensorFlow, OpenCV, Scikit-Learn
Design	SOLIDWORKS, Autodesk Fusion 360, KiCAD/Altium/Eagle
Prototyping	Arduino Boards (ESP8266, Feather, Stemma), RTOS Embedded Systems, Raspberry Pi, 3D- Printing
Platform Experience	Google Cloud Platform, AWS, Linux, Docker