# Julian Pitney

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SOFTWARE ENGINEER

## Contact

Ottawa, ON, Canada

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## Skills

Python

Docker

Terraform

AWS

Kubernetes

PostgreSQL

CI/CD

Neural Networks

OpenAI API

Git

Vim

Linux

Digital Electronics

Sensors

Actuators

Soldering

## Languages

English

French

## Portfolio

https://julianpitney.ca

## Work Experience

### Software Engineer Team Lead, Récherches Neuro-Hippocampe

OCTOBER 2021 — PRESENT

- Hired and led a developer team to build a digital platform for the company.
- Developed a deep understanding of the business by talking to people. Built relationships with people in all departments and explained our vision to them. Earned buy-in from enough people to catalyze the transition to better systems.
- Ensured I.T systems were organized, documented and compliant with PHIPA, PIPEDA and Law 25. Reduced audit surface-area, making it easier and faster to pass audits.
- Used Terraform to build our AWS and K8s infrastructure.
- Wrote Python wrapper for Clinical Research IO API.
- Used GitHub Actions to implement CI/CD.
- Dockerized all our services.

### Software Engineer (part-time), GeneRxN Research

FEBRUARY 2022 — PRESENT

- Worked on prototype qPCR machine with integrated DNA purification.
- Selected and integrated high-accuracy SMD temperature sensors from Texas Instruments. Designed PCB, manufactured boards, performed SMD soldering and programmed resulting sensor boards to serve as control loop inputs.
- Implemented photodiode amplifier to measure quantity of PCR products.
- Met regularly with chemistry team to ensure system met their requirements.

### Software Developer, University of Ottawa - Department of Cellular and Molecular Medicine

DECEMBER 2017 — OCTOBER 2021

- Worked with M.Sc, PhD and postdoc students to automate their experiments.
- Built a complete lightsheet microscope system to generate 3D scans of full-brain vasculature in rodents. System cost $30,000 but scan quality was similar to that of $800,000 commercial systems. These scans were published in a paper.
- Used Spinnaker SDK (C++ and Python interfaces) to integrate FLIR cameras.
- Designed and manufactured mechanical components (CNC, laser cut, FDM).
- Used RPi, Arduino and Jetson Nano in a dozen different projects.
- Published Python distribution packages to PyPi.
- Used OpenCV to process image data and run computer vision algorithms.
- Worked with a wide variety of sensors and actuators.

### Software Developer (Intern), Thales Canada

JANUARY 2015 — AUGUST 2016

- Processed/cleaned point cloud data from LiDAR scanners.
- Explored Unity Engine to model cities for demoing autonomous rail systems.
- Hooked up and communicated with GPS sensors using Python.
- Helped senior engineers build new features in a C and x86 assembly codebase.