

Oct 17, 2022

2000 Ellis St, San Francisco, CA 94115
415-872-2954, hire.alex@martens.chat

Alex Martens

Software Developer
MSc | 5 years of experience



Toolbox: Ruby / Python / JavaScript / React / Docker / Heroku / C / R / SQL / MongoDB / Redis / Machine Learning / Computer Vision



[linkedin.com/in/martensalex](https://www.linkedin.com/in/martensalex)



github.com/alexsmartens

Experience

About



I am a full stack engineer and I deliver results. I am excellent at taking on hard problems, navigating complex codebases and producing high quality software.

Software engineering is my job and hobby, I am always curious and constantly learning: reading books, collaborating and experimenting.

Over the last 5 years, I have helped innovative companies to deliver outstanding customer experiences and solve complex problems. I am passionate about writing better code faster and producing reliable, maintainable and extendable software. Much of my code is still running in production.

I am looking for a fast-paced environment where people are paying attention to detail and are not afraid to ask questions or express their opinion. My ideal role would be among a team of creative result-driven engineers who I could grow professionally with.

Spare Time Projects and Hobbies

Built, tuned up and ran multiple 7-GPU cryptocurrency mining rigs.

Built and set up a custom router running pfSense for improved privacy and security with features like ad/tracker traffic filtering, Suricata, OpenVPN.

Set up a personal cloud running Nextcloud with ZFS, auto data backup, Plex media server.

Built and ran a high performance workstation for machine learning and computer vision projects with: 32-core AMD Threadripper 2990wx, Nvidia 1080Ti, 64 GB four channel RAM, custom CPU-GPU water cooling loop (EKWB).

Education

Volunteering

MSc in Construction Project Management and Engineering
@[University of Alberta](https://www.alberta.ca), Edmonton, AB, Canada

- Algorithms & Data Structures, CSC263
- Software Tools & Systems, CSC209
- Machine Learning, CMPUT551
- Applied Regression Analysis, STAT502
- Statistics for Engineering, STAT235
- Computer Vision, Udacity CS6476
- Simulation, CIVE606

2015-2017

Research Assistant @[University of Alberta](https://www.alberta.ca), Edmonton, AB, Canada

My mission: researching innovative tools for construction industry

📄 thesis [prezi: Automated Tool for Visual Progress Tracking in Construction!](https://prezi.com/automated-tool-for-visual-progress-tracking-in-construction/)

- 🔧 achievements: improved computation time in 10 fold and cut down number of manual steps required. Tested the proposed approach at a Ledcor's site
- 📄 concepts: SfM, MVS, ICP, Gaussian Mixture Model, CPD, Hausdorff distance
- 🔧 tools: Matlab, Python, Bash, C++



Software Developer @[Salu | Health Gauge](https://www.saluhlth.com), Edmonton, AB, Canada

My mission: developing app for interaction with smart blood pressure sensors

- 🔧 achievements: designed and developed a full-fledged Android/iOS app
- 📄 concepts: MVC, signal visualization, REST, Bluetooth communication, UI/UX
- 🔧 tools: React Native, JavaScript, Python, Flask, Pandas, Matplotlib

Python Developer @[Coursera](https://www.coursera.org), San Francisco Bay Area, CA (remotely)

My mission: developing course materials for self driving car courses

- 🔧 achievements: developed assignments and automated graders for courses offered by the University of Toronto that have 60K+ enrollments
- 📄 concepts: visual odometry, PID controllers, stereo vision, simulation
- 🔧 tools: Python, Docker, OpenCV, CARLA
- 🔗 project: www.coursera.org/specializations/self-driving-cars

Data Engineer / Software Programmer @[Real Tech](https://www.realtor.com), Toronto, ON, Canada

My mission: developing platform for managing smart water quality sensors

- 🔧 achievements: implemented ML model training service and deployed it on AWS; developed dashboards with custom JS D3 widgets for real-time IoT data visualization; maintained company's IoT platform
- 📄 concepts: data visualization, microservices, IoT platform
- 🔧 tools: JavaScript, D3, Python, AWS, Flask, Pandas, Matplotlib, Thingsboard

AI Developer @[Katerra](https://www.katerra.com), Toronto, ON, Canada

My mission: smart thermostat development (similar to NEST)

- 🔧 achievements: proposed, developed and validated a humidity based occupancy model for smart thermostats
- 📄 concepts: data science, prototyping, experiment design, computer vision
- 🔧 tools: Python, Pandas, Matplotlib, Scikit-learn, Statsmodels

Full Stack Developer @[Wefunder](https://www.wefunder.com) (YC startup W13), San Francisco, CA

My mission: improving and extending crowdfunding platform

- 🔧 achievements, developed or significantly improved the following:
 - automated identity verification via LexisNexis and manual verification pipelines
 - tool for founders to manage investments and analyze campaign success
 - e-contract integration into an existing workflow
 - automated reconciliation for ACH payments
 - admin refund tool
- 🔧 tools: Ruby on Rails, JavaScript, React, CSS, PostgreSQL, RSpec, Heroku, Vim

Oct 2020-Sep 2022

Jul 2019-Jul 2020

Feb 2019-Jul 2019

Nov 2018-Mar 2019

Jan-Jun 2018

2015-2017

2009-2013

- Head of Students' Union
 - represented students' interests at my university and local government
 - recruited volunteers
 - managed teams
 - initiated and organized events