Patryk Oleniuk

Lead Software Engineer — AI & Data Tooling

About me

Generalist Software Engineer with experience in designing AI Tools: Back-End, Data Engineering, ML, and whatever else is needed - I learn fast.

Excited to work on:
☆ AI / ML / Analytics tools.
☆ Software interacting with hardware.
☆ Groundbreaking projects.

Contact

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▤ patryk-oleniuk.github.io
⌾ github.com/patryk-oleniuk
⌂ Los Angeles, CA (open to relocate)
    US Green Card Holder
    US O -1 Extraordinary Ability Visa

Skills

Coding	Basic 6mo+	Advanced 3y+
python, go		☆☆☆☆☆
C, C++		☆☆☆☆☆
PostgreSQL		☆☆☆☆☆
javascript (learning FE)		☆☆☆☆☆

Dev Ops

Docker		☆☆☆☆☆
bash & scripting		☆☆☆☆☆
AWS EC2 / S3		☆☆☆☆☆
Networking		☆☆☆☆☆
k8s (learning)		☆☆☆☆☆

Data Processing & Visualization

pandas, numpy		☆☆☆☆☆
plotly, DASH, streamlit		☆☆☆☆☆
Airflow, NiFi		☆☆☆☆☆
mlflow, SageMaker		☆☆☆☆☆
Kafka, SQS, AcitveMQ		☆☆☆☆☆
Spark, pySpark		☆☆☆☆☆

Data Science & ML

Time Series Forecasting		☆☆☆☆☆
PCA, NNs, XGBoost		☆☆☆☆☆
DNNs, GAN, image		☆☆☆☆☆
keras, tensorflow		☆☆☆☆☆

Collaboration & Management

git		☆☆☆☆☆
Fast SW Prototyping		☆☆☆☆☆
Confluence, JIRA		☆☆☆☆☆
Project Management		☆☆☆☆☆
Leadership (learning)		☆☆☆☆☆

Experience   5 years

Virgin Hyperloop (prev. Hyperloop One)………………………….…..………3 years

○ **Lead Software Engineer** …..…………………………………………April 2019 - Now
Machine Intelligence Team (20 engineers), Data Automation group. Wearing many hats. Software Architect, Web, Data, ML Engineer. Video showcasing our work [link].

- Designed, built, and maintain cloud AI simulation run and analysis infrastructure: golang(BE), python(analysis), postgreSQL, EC2, S3, ActiveMQ, MLflow, Spark. Purpose: mass scaled simulations & batch analysis for generative transport designs. Result: 50x faster time-to-insight for executives' reports - from 6months to 3days.
- Filed 2 patents based on work explained above [link].
- Trained passenger demand prediction models using keras & Horovod, ARIMA, Prophet. Improved Hyperloop capacity utilization by 70% (in transport simulation).
- Built a pipeline to upload log files from embedded boards (C, lwip) to server (python) for log analysis, automating manual tasks for >20 people, saving 50k$/mo.
- Tech-led 6 software products, from requirements definition phase, through execution, bug fixing and maintenance. Always delivered on time or earlier.
- Hired and mentored 3 junior developers.
- Presented at dev conferences, reached >50k tech viewers. One of my talks: [link].

○ **Software Engineer**……………………..….………..…………Nov 2018 - Mar 2019
- Sped-up python analytics code 150x by using Spark/koalas. My talk on how: [link].
- Standardised simulation parameters and metrics by setting up shared python libraries, other coders within the organisation are relying on them every day.
- Built a CLI based on go, EC2, S3 and docker that drastically improved AI reproducibility and automated data workflow for analytics and simulation team.
- Built interactive plots & dashboards, letting simulation team to deep-dive into data, resulted in >100 bugfixes and AI algorithms upgrades. Video showing my work:[link].

○ **Autonomous Software Intern**……………...……..……..Mar - Oct 2018, Summer 2017
- Designed and developed back-end for over-the-air software update & device management. Tech: C++(device side), HTTP/REST, go, PostgreSQL (server side).
- Developed vehicle run automation, C++ on Linux, C on BareMetal over DDS. My code is still used in the test track [link], including the latest passenger test [link].

CERN (European Org. for Nuclear Research)………………….…..…..…………2 years
○ **Test Software and Electronics Team Leader**……………..………….……...……2016
Led a team of 3 students designing test equipment. Built test software for 7 devices used to test >10k units. Wrote 2 research papers: [paper1], [paper2].

○ **Test Software and Electronics Engineer**…………….……………………...………2015
Automated Test Equipment software(70%) and hardware(30%) for Power Converter Control Electronics. Software for NI PXI (C) and JTAG B-S (python).

Samsung R&D..……………………………………………….……….……3 months
○ **Software Engineer Internship**………………………………..………Summer 2013
C++/Java Smart TV middleware and bug fixes. Project: Virtual Remote Control.

Full list of my employment(>5) projects(>5) and publications(>5) on linked.in/poleniuk.

Education

EPFL - École Polytechnique Fédérale de Lausanne…………………Master of Science
○ Electrical Engineering and Computer Science..…………………..…. 2016 – 2018
    Specialisation: Data Science, Machine Learning   Lausanne, Switzerland

WUT - Warsaw University of Technology………………..……Bachelor of Engineering
○ Electrical and Computer Engineering…………………….……………..2011 – 2014
    Specialisation: Telecommunication and Multimedia   Warsaw, Poland