Valentin Tsatskin

Freelance

Jun 2022–Present,
Remote, Toronto, ON

Software Development & Consulting

- Designed interface and API for delivering ER patient deterioration predictions from ML models to hospital clinical staff.
- Analyzed processes and personnel of engineering organization for improving efficiencies and achieving company profitability.
- Lead engineering team and product development of mobile and web apps in the mental health therapy space.

layer 6

Jun 2020–May 2022,
Remote, Toronto, ON

Senior Machine Learning Engineering

- Developed tools for state of the art machine learning explainability used for core bank use cases in Java, Elm, and TypeScript.
- Designed and implemented data visualizations and UIs for large datasets (100s millions records) using ChartJS, VegaLite, and Figma.
- Planned and supervised projects for 4 co-op students while providing training, mentorship, and career guidance.
- Awarded TD's 2021 Patent Visionary Award for designing and implementing a novel ML explainability tool and algorithm for uncovering feature-prediction relationships using React, Python, and Scikit-Learn (CCE-Vis, patent-pending).

Passenger AI

May 2018–May 2020,
Remote, Toronto, ON

Senior Software Engineering

- Integrated computer vision machine learning models for autonomous vehicle cabin monitoring.
- Built a real-time vehicle monitoring frontend and backend using TypeScript, React, NodeJs and WebRTC.
- Evaluated, benchmarked, and integrated real-time and archival media streaming and storage software utilizing WebRTC, HLS, and RTMP protocols.
- Developed a custom camera exposure PID control system for increasing computer vision ML model performance by 15%.

Skills

Web Development
React, TypeScript, Elm, GraphQL, WebRTC, jQuery, three.js

Backend Development
NodeJs, Python, Java/Kotlin, Rust, Postgres, ElasticSearch, CouchDB, Hasura

Media Storage and Streaming
WebRTC, HLS, RTMP, Wowza, Ant Media

Machine Learning, Image Processing
OpenCV, dlib, scikit-learn, MATLAB, Python, C++

Data Analysis and Visualization
VegaLite, ChartJs, D3, Pandas, matplotlib, Python, R, SQL

UX and UI Design
Human Centered Design, Sketch, Framer, Origami Studio

Education

Systems Design Engineering
BASc (Hons), University of Waterloo, 2017

Contact & More

✉ val@valtsatskin.com   ⦿ github.com/vtsatskin
📞 Available upon request   🌐 http://valentin.tsatsk.in

avec — Technical Co-Founder

Nov 2017–Jan 2018, Toronto, ON

- Co-founded a startup to drive more customers into high-end restaurants through marketing 2-for-1 food deals.
- Lead the technical effort to launch an iOS and Android app, GraphQL backend API, and website for the product.
- Architected system to have type safety across all components and their boundaries utilizing Flow, GraphCool, and Apollo.

Pressura — Founder

Apr–Nov 2017, Waterloo, ON

- Founded company to prevent pressure injuries in wheelchair using seniors through technological and process improvements in long-term care facilities.
- Created an IoT pressure distribution sensing wheelchair cushion with offline caching capabilities streamed to an iOS and Anroid app.
- Developed a machine learning algorithm to detect users performing pressure relieving exercises while sitting on the wheelchair cushion

facebook — Data Scientist Intern

May–Aug 2016, Menlo Park

- Analyzed usage and growth opportunities of an experimental version of the Facebook Newsfeed deployed to millions of users.
- Identified product opporunitites for increasing user retention through flow analysis.
- Conducted a hierarchical clustering analysis of users' interests

architech — Machine Learning Research Co-op

Sep–Dec 2015, Toronto

- Researched and developed a real-time calibration-free gaze tracking system for large interactive displays in Python and C++.
- Trained and analyzed the model utilizing OpenCV, scikit-learn.
- Worked with speech diarization and three.js for 3D visualization of collaboration in rooms.

INDIEGOGO — Software Engineering Intern

Jan–Apr 2015, San Francisco

- Led team to redesign and engineer internal campaign history tool, winning internal award.
- Created a spam detection system for campaign comments.
- Parallelized API acceptance test builds on CircleCI continuous integration system.

mozilla — User Experience Designer

Jan–Aug 2014, San Francisco

- Redesigned Firefox's network error pages to increase error recovery.
- Prototyped tab-switching concept for Android Firefox.
- Created interaction designs for Firefox OS's data consumption tool.
- Wrote and conducted usability studies for Firefox OS features.

HACK THE NORTH — Co-Founder

Oct 2013–Sep 2015, Waterloo, ON

- Kickstarted Canada's largest hackathon for 1000+ hackers from 100 schools in 10 countries.
- Defined hackathon's vision and values.
- Led website engineering and design team to create application page for 1000s of applicants.