1331 Nelson St. Unit 1
Vancouver BC V6E 1J8

ERIK TILLBERG

M.Sc. Computer Science
Website LinkedIn GitHub

(647) 283 7396
eatillberg@gmail.com

Technical Expertise

- Python; Java; JavaScript; C++; Android; iOS; HTML; CSS; MongoDB; PostgreSQL; MySQL; sqlite3
- Flask; FastAPI; PyTorch; Firebase; React; React Native; Docker; K8s; Jenkins; git; Azure; AWS; Accessibility Standards

EMPLOYMENT

Co-Founder & CTO — **The Happenin Company** (happenin.io) — **Jan 2021 - Present**

Happenin

- Leading a team of 7 developers building the Happenin platform for public and private events
- Researched, designed, and implemented a recommendation engine for events and activities based on user behaviour
- Built an Android, iOS, and web app in React Native/React for public and private events, and a vendor-facing portal for ticket sale tracking, guest lists, ticket scanning, and customer communications
- Developed backend ticketing, payment, and email systems in Python by integrating with external APIs such as Stripe
- Played key part in helping to raise $200k in funding

CTO — **iMerciv Inc.** (mapinhood.com) — **Nov 2018 – Jan 2021**

- Led a team of 3 engineers, built an accessible navigation app for pedestrians on Android and iOS with React Native
- Built an accessible, high-performance routing engine in Java for pedestrians with hundreds of parameters such as slope, obstacles, foot-traffic, and street lighting data for safe and accessible routes
- Implemented custom user routing profiles for personalized routes through urban centres
- Built dockerized REST service in Python using Flask exposed with Kubernetes, interfacing with a PostgreSQL database
- Worked closely in partnership with the Microsoft AI for Accessibility team, the Canadian National Institute for the Blind, and Spinal Cord Injury Ontario to build, test and pilot our product
- Designed PoCs, wrote applications, and met with stakeholders, helping to raise $1M in funding

Teaching Assistant — **University of Toronto** — **Jul 2017 - Feb 2019**

- Courses: Head TA for CS 207 - Software Design, and CS 148 - Introduction to Computer Science
- Ran office hours for students in all years to help with upcoming assignments and studying for exams

Software Developer — **Thicket Labs** — **May 2016 – Apr 2017**

- Increased speed of the fuzzy cognitive map convergence algorithm by 10x
- Implemented web designs in Angular JS along with server-side methods in Java
- Developed model for forecasting homelessness over time in urban areas based on surveys and public data sources
- Built a website to display forecast results and allowed users to input varying policies to modify the outcomes

EDUCATION

University of Toronto — **Sep 2017 – Feb 2019**

- Master of Science in Computer Science, GPA: 3.6
- Thesis*: Optimal Bidding Strategies for Online Ad Auctions with Overlapping Targeting Criteria*. Designed and implemented a provably optimal algorithm for setting bid prices and assigning ad spots to campaigns in online auctions
- Coursework: Computational Linguistics, System Modelling & Analysis, Convex Optimization, Algorithms for Collective Decision Making, Machine Learning (audited)

Thunder Bay, ON — **Lakehead University** — **Sep 2012 – Jun 2017**

- Honours Bachelor of Science in Computer Science, GPA: 4.0
- Coursework Highlights: Machine Learning, Artificial Intelligence, Cloud Computing, Big Data, Multivariable Calculus, Programming Languages, Comp. Architecture, Algorithm Design & Analysis, Cryptography, Comp. Networks, Graphics

Additional Projects

- **Online Ad Auction Bid Assigner** (2018). Developed a reinforcement learning algorithm to assign online ad slots to ad campaigns based on user data from the ad and the targeting criteria of the campaigns
- **Twitter Stock Predictor** (2016). Developed tool for predicting stock trends using tweets & support vector machines
- **Virtual Stock Exchange** (2015). Platform for stock trading with virtual currency based on real-time stock prices
- **Particle Image Velocimetry (PIV) Algorithm** (2014). Developed an algorithm for PIV which computes a vector field of fluid velocities derived from images of particles in a fluid hit with a high intensity laser