

Kousha Talebian *Principal Engineer*

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 3106 - 128 West Cordova St, V6B 0E6 Vancouver, Canada

EDUCATION

2012 – 2014

Master of Applied Science

Univeristy of British Columbia

- Analyzed the performance, effectiveness and robustness of L1 Adaptive Control theory as applied to the closed-loop control of anesthesia. Proved the theory is invalid.
- Developed and simulated a real-time oscillation detection methodology and an adaptive auto-relay-based algorithm to auto-tune the controller and remove oscillation.
- Scholarship: NSERC's EIS Funding (total: \$50,000).

2006 – 2011

Vancouver, Canada

Bachelor of Applied Science - Engineering Physics with Electrical Options

University of British Columbia

- Specialized in optics as well as PCB design and fabrication.
- Scholarships: President's Entrance Scholarship, Golden Key Chapter, Dean's Honor Roll (total: \$10,000).

PROFESSIONAL EXPERIENCE

Twilio, Inc

03/2023 – present
Vancouver, Canada

Principal Engineer

- Assisted as a "loan architect" to different teams to help design their new products and help with cross-team collaboration.
- Designed and built the Twilio Flex special Business Continuity Mode, a degraded fallback system.

01/2022 – 03/2023
Vancouver, Canada

Principal Engineer - Tech Lead

- Designing the next generation of Twilio Flex contact-center product in a team of 10 other Tech Leads and 2 Senior Architects.
- Leading a team of 8 engineers to develop the execution engine of the product using Temporal. The expected system load is 1,000 step transitions per second, a 3x fold increase over the existing Twilio Studio engine.

04/2020 – 12/2021

Staff Engineer - Tech Lead

- Improved the reliability of Twilio's Flex edge service by reducing the number of incidents from once a week to almost no incidents in over a year.
- Improved the performance of the edge service. A single node can perform 1k req/sec, vastly outperforming the Twilio API's edge service.
- Designed and developed the entire stack of the Twilio Flex Plugins ecosystem. The stack includes a Java API backend and a TypeScript CLI interface.
- Designed the standard model of gameday that is now used throughout Twilio Flex. This model has increased resiliency and a better informative session for junior engineers.
- Owner of the Twilio Flex CDN deployment pipeline.

01/2018 – 04/2020
San Francisco, USA

Senior Engineer

- A team of 2 engineers developed the first version of the company's Serverless environment (Twilio Functions), handling 500/sec Function invocation.
- Designed and developed the second version of the Twilio Functions and Assets.
- Contributed to the GAing of the Twilio Studio (workflow execution engine) platform.

05/2016 – 01/2018
San Francisco, USA

Software Engineer

- Developed an API Explorer from the company's internal API definition. The system has been running without maintenance since it was deployed in 2017.

02/2015 – 05/2016
Redwood City, USA

- Designed, developed and shipped the second and third generations of the company-wide debugger platform.
- Led the company's transition from jQuery to React application. Developed the first generation of the deployment pipeline, eventually leading to a more streamlined development of front-end code deployment across the company.

iCracked Inc

Junior Software Engineer

- A team of 3 designed and manufactured an SoC computer from start to finish that includes the battery, WiFi, BLE 4.0, and Qi. Sold out an initial batch of 200 devices in 2 days, generating a revenue of \$50,000.
- Custom Linux OS boots in 12 seconds (10 seconds faster than Debian) and leverages hardware components.
- Developed a powerful dashboard, allowing remote monitoring and controlling of all the computers, deploying Over-The-Air updates, managing user access to the units, and secure tunnelling a local port to a public domain.

09/2013 – 09/2015
Vancouver, Canada

S&K Cloud Computing

Co-Founder

- Working with three customers, most notably, a municipality government. Two additional districts are interested.
- Developed the UX and UI. The front end is an MVW pattern in AngularJS. The back end is the MVC pattern in Laravel.
- The graphical interface mimics existing office practices, eliminating a staff learning curve.
- Automatic exporting to Excel and Google/Apple calendar syncing

05/2011 – 01/2013
Vancouver, Canada

Madison's Group (UBC)

Electrical Engineer

- Reduced the design cost of the vacuum pump by 30% (\$400,000) through 3D simulation of the system on SolidWorks.
- Regulated internal temperature and pressure of a vacuum pump using custom sensors powered by an Arduino.
- Simulated a magnetic field using Python to compute the trap dimensions needed to generate the field. Used simulation to prove the feasibility of the system.

08/2012 – 07/2014
Vancouver, Canada

Sauder Summit Global Case Competition

Co-Chair

- Led a team of 70 in the first and second year of the university's annual signature six-day conference through planning & execution of the event attended by 60 international competitors, 70 professionals & 400 spectators.
- Secured \$100,000 of sponsorship by establishing a value-based relationship with donors.

05/2010 – 05/2011
Würzburg, Germany

Lehrstuhl Für Technische Physik

Physicist

- Automated data collection by LabVIEW and analysis by MATLAB and Mathematica, resulting in a 96% reduction in labour intensity (24 to 1 hr) and a 15% increase in accuracy.
- Increased precision of semiconductor growth by 80% through automation; results were published in DPG.

SKILLS

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|----------|-------------------------|-------------|-----------------|
| • Java | • TypeScript/JavaScript | • Databases | • Lua/OpenResty |
| • Python | • NodeJS | • PHP | • Temporal |

INTERESTS

- | | | | |
|-----------------------|-------------|-------------|-------------|
| • Musical Instruments | • Airplanes | • Traveling | • Languages |
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