

## Profile Summary

Dynamic and creative recent **Computer Security** graduate with **over three years of experience** in software development using **Java**, **TypeScript**, **JavaScript** and **Python**. Focused problem solver with superior analytical skills to identify problem roots. In previous roles, adopted new technologies and performed comprehensive research to complete projects. Enthusiastic about and experienced in **application security**, **authentication**, **access control mechanisms**, **cryptography**, **network security** and **software architecture**. Seeking to join Google's hardworking and collaborative professional security team to provide superior customer service and make a valued contribution to team members while developing and securing the next-generation computer technologies.

## Education

### B.Sc. Spec. Hons. Computer Security

Sep. 2015 - Apr. 2020

YORK UNIVERSITY

North York, Ontario, CA

- Member of **Dean's Honour Roll** (GPA of **7.38 out of 9**).
- Granted membership of Golden Key International Honour Society.
- Achieved **Chair's Honour Roll** from the department of Mathematics and Statistics during the 2015-2016 session.

## Work Experience

### Computer Security Research Assistance

Jan. 2020 - Aug. 2020

YORK UNIVERSITY

North York, Ontario, CA

- Malwareless Web Analytics Pollution (MWAP) Tools Analysis
  - Multiple attacking tools and headless browsers analyzed.
  - Overall feasibility and effectiveness of conducting successful MWAP attacks evaluated where the attacker can generate a large number of fake requests from a single fully controlled machine.
  - New **multithreaded MWAP attack tool developed** (**eLoki**) in Java using **HtmlUnit** and **Selenium** to precisely assess **Google Analytics** and **AWStats** vulnerability to fake requests.
  - Currently (and until the end of August) developing software module for **eLoki** to record **genuine human-user generated mouse movement** and actions using Selenium WebDriver. Professor **Natalia Vlajic** will use final software against known bot-detecting tools, including Google Analytics and **Google reCAPTCHA v3**.

### Co-founder & CTO

Jun. 2019 - Current

TREAD2GO INC.

Richmond Hill, Ontario, CA

- **Architected and developed mini ERP RESTful API** using Spring boot MVC, Spring Cloud and deployed on AWS Beanstalk.
  - Tread2Go monolithic backend was designed to schedule orders and **allocate resources to optimize operations and minimize costs**.
  - Software needed to be **highly scalable** and convertible to **microservices**.
  - To make the development process faster, integrated and used many third-party APIs (Firebase, Google Cloud APIs, Nexmo, Stripe and more).
  - Applied best practises and design patterns while designing and developing **RBAC to handle authorization** using **Spring Security**.
- Initiated Tread2Go **Angular PWA** and managed Angular front-end team using Trello, GitHub and Swagger; improved interpersonal skills to lead the project and **soft skills** to manage the stressful environment.
  - Repetitively converted business requirements to practical development plans, **managed and executed development plans using the defined budget**, enabled the company to continue working with **lean** and **agile** strategy.
- Deployed and maintained PWA and server-side services, orchestrated and managed DNS, Security Policies, S3, EC2, Beanstalk, RDS and SES.
  - Applied and setup **DevOps** and development pipelines using Amplify and GitHub, significantly eased **PWA delivery**.

### Information Security Analyst

Jan. 2019 - Apr. 2019

SCOTIABANK

Scarborough, Ontario, CA

- **Developed a robust cryptography tool** specifically for the Information Security and Control department using Java **without any framework** to include the least number of external libraries as a security requirement.
  - Cryptool is compatible with most common **OpenSSL** standards and leverages from both **Symmetric and Asymmetric cryptography**.
  - Cryptool has different modes also to ensure **data integrity via digital signature**.
- Helped to analyze and test application security, including:
  - Static Application Security Testing (**SAST**) via Micro Focus Fortify and Blackduck.
  - Dynamic Application Security Testing (**DAST**) via Micro Focus Fortify Webspect.
- Integrated some new security analysis and management software by learning and utilizing Python 3; helped the security team analyze and manage static source code vulnerabilities more efficiently.
  - Utilized Jira and Bitbucket and started to learn and adapt **Jenkins** to make the new application delivery process more efficient and robust.

## Teaching Assistance

Sep. 2018 - Dec. 2018

YORK UNIVERSITY

North York, Ontario, CA

- Assisted in the “Programming for Mobile Computing” course by helping students learn about Java 8 and **Android Development**, which significantly contributed to improving **interpersonal skills**.

## Full Stack Developer

Jul. 2018 - Sep. 2018

CUBE ANGLE INC.

Markham, Ontario, CA

- Architected and developed Trade Dimension Dashboard (TDD) using Angular and Spring framework (REST API).
  - TDD was a **Cloud-based web application** mainly designed to visualize trade data stored on Amazon Redshift.
- Learned and utilized cloud computing concepts and various AWS tools to deploy Trade Dimension Dashboard, including:
  - AWS Cognito**, Redshift, RDS and API Gateway and **Ubuntu** EC2 to make backend available.
  - “amplifyjs” and “awsmobile” to connect the frontend to AWS Cognito and Mobile Hub.

## Web Application Developer

Apr. 2017 - May. 2018

VASTER INC.

North York, Ontario, CA

- Learned and adapted Angular and **Symfony** (REST API) to develop Vaster Dashboard (VDP), was mainly designed to visualize Vaster Platform Data and support CRUD operations.
  - VDP was deployed on AWS **CentOS** EC2.
- Assisted in architecting and developing Cloud-based API of Novo Chat by learning and adapting Spring Boot and **Spring Cloud** and container technologies (**Docker**).
  - Implemented Discovery Service, Default Gateway, Configuration server and other microservices.
  - Microservices were deployed on multiple AWS **Ubuntu** EC2 instances.
- Learned and adapted the best security practices and tools:
  - JWT authentication** had been used to authenticate VDP users (access token and refresh token).
  - Microservices were set to use JWT to talk to each other **over a secure channel**.

## Skills & Concepts

<b>Security</b>	<b>Cryptography</b> , Network Security, JWT, <b>Authentication</b> , Spring Security
<b>Programming</b>	<b>Java</b> , TypeScript, PHP, <b>JavaScript</b> , Python, SQL, Eiffel, C, C++
<b>Back-end</b>	<b>Spring</b> , Spring Boot, Symphony, <b>REST API</b> , Microservices, Software Design, Algorithm Optimization
<b>Front-end</b>	<b>PWA</b> , <b>Angular</b> , jQuery, SCSS, HTML, CSS
<b>DevOps</b>	Docker, Kubernetes, Jenkins
<b>AWS</b>	<b>Amplify</b> , <b>Cognito</b> , <b>BeansTalk</b> , S3, EC2, ECS, RDS, SES, Route 53
<b>Languages</b>	English, Persian
<b>Other</b>	Unix/ <b>Linux</b> Based OS, Concurrency, <b>Multithreading and Synchronization</b> , CMS, Autodesk Maya

## Volunteer and Other Experience

In junior school, began to learn **robotics** and led the Danesh High School team for three years. Team achieved the first place in two local tournaments and an award in **Iran Open Robo Cup 2012**. Taught high school-level robotics for almost a year after leading team to success in the Robo Cup before moving to Canada. While in high school and university, taught Java and PHP to friends, and built websites using **Drupal**, **WordPress** and **Joomla**.

Participated in the **Google Foobar** challenge and shared contact information with Google ([saaniaki@gmail.com](mailto:saaniaki@gmail.com)).