

# PAULINA GRACE KHEW

## SYSTEMS DESIGN ENGINEERING AT THE UNIVERSITY OF WATERLOO

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### TECHNICAL SKILLS

**Languages:** Python, Go, PHP, Ruby, JavaScript, TypeScript, SQL, C++

**Frameworks and Tools:** Flask, Django, Laravel, Slim, Git, Rails, Docker, Jupyter Notebook, PostgreSQL

### WORK EXPERIENCE

#### Twitch

San Francisco, CA  
United States of  
America  
May 2022– Present

#### SOFTWARE ENGINEER | IVS INTERACTIVITY TEAM (Internship)

- Developing the **stream chat** portion of the **Amazon Interactive Video Service (IVS)** live streaming solution that allows users to build interactive video experiences that easily integrate into apps and websites through **AWS**
- Designing project to track messaging requests and deliveries across a **distributed** and **asynchronous** data plane
- Implementing the **Data Plane Delivery Tracking (DPDT)** project in **Go** that aggregates and records message data in an **SQS** queue that can be queried to emit **CloudWatch** metrics and logs from undistributed requests

#### Shopify

Remote  
Sep – Dec 2021

#### BACKEND DEVELOPER | BILLING PLATFORM TEAM (Internship)

- Built the tools and primitives that allow teams at Shopify to bill their users for the services they provide through Shopify's Admin API with **REST** and **GraphQL** and an internal billing dashboard built in **Ruby on Rails**
- Owned a **Ruby** Bulk Credit Tool project in Shopify's internal billing dashboard that automates the assignment of credits by parsing CSV files saved in **Google Cloud Storage** and a user interface created using **Shopify Polaris**
- Led the **technical design** of the Bulk Credit Tool by writing the technical design document, scoping out and creating issues in the project board, and **communicating with stakeholders** to create a user-friendly solution

#### Shopify

Remote  
Jan – Aug 2021

#### BACKEND DEVELOPER | DOCS AND API LIBS TEAM (Internship + Part Time)

- Contributed to open-source tools owned by Shopify, including the **Python** Shopify API library, the Shopify **Django** App, the Shopify app **command line interface (CLI)** in **Ruby**, and the Shopify **Node** API library built in **TypeScript**
- Produced an open-source framework-agnostic **PHP** library that acts as a wrapper for the **Shopify Admin API**
- Launched the **PHP Shopify API Library** in under two months, allowing third-party developers to create online and offline access tokens using **OAuth**, make **REST** and **GraphQL** requests, and register and process **webhooks**
- Created a **Laravel** application for third-party developers to reference when using the **PHP Shopify API Library**

#### ApplyBoard

Kitchener, ON  
Canada  
May – Dec 2020

#### SOFTWARE ENGINEER | AUTOMATION TEAM (Internship + Part Time)

- Led development on an **OCR** project that processes document images using **OpenCV** and **Google Cloud Vision**
- Leveraged **preprocessing techniques** such as adaptive thresholding, image rotation, and face detection to raise the accuracy of parsing information from passports, IELTS, and Aadhar documents by **over 30%**

#### ApplyBoard

Kitchener, ON  
Canada  
Sep – Dec 2019

#### SOFTWARE ENGINEER | AUTOMATION TEAM (Internship)

- Spearheaded a **machine learning** project that performs **sentiment analysis** on incoming emails and flags urgent emails on **FrontApp**, a corporate email platform used by the Customer Experience team
- Worked on an intermediary **API server using Flask** that utilizes **webhooks** to parse and classify incoming emails and automates tasks such as updating profiles and sending notes to students on the ApplyBoard platform
- Automated the login, autofill, and submission of applications on various school portals using a **Google Chrome extension** written in **JavaScript** and **jQuery** using student profile information from ApplyBoard.com

#### GrantMatch

Oakville, ON  
Canada  
Jan 2019 – Apr  
2020

#### JUNIOR SOFTWARE DEVELOPER (Internship + Part Time)

- Created a section on the **PHP** GrantMatch system that dynamically renders website information into a marketing PDF using **HTML**, **CSS**, and **JavaScript** through **PhantomJS**, a scriptable headless web browser
- Designed, developed, deployed, and tested features for the **Django** GrantMatch app using **Python**
- Performed **data analysis** with **Pandas** and **BeautifulSoup** to scrape and clean data within **Jupyter Notebooks**

### EDUCATION

#### University of Waterloo

Waterloo, ON  
Sep 2018 - Apr 2023

#### BACHELOR OF APPLIED SCIENCE IN SYSTEMS DESIGN ENGINEERING (BASc)

- Learned **object-oriented programming** in **C++** in *Digital Computation* and *Data Structures and Algorithms* courses
- **Motorola Engineering Scholarship** – presented annually to one outstanding student entering first year
- **University of Waterloo President's Scholarship** – awarded to students with admission averages above 90%