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 – Aug 2022

SOFTWARE ENGINEER | IVS INTERACTIVITY TEAM (Internship)

- Developed 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**
- Designed project to track messaging requests and deliveries across a **distributed** and **asynchronous** data plane
- Implemented the **Data Plane Delivery Tracking** (DPDT) project in **Go** that records message data in an **SQS** queue and aggregates it in a **DynamoDB** table that can be queried to emit **CloudWatch** logs from undistributed requests

Shopify
Remote
Canada
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
Canada
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
Remote
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)

- **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%
- Pursuing a **Software Engineering Option –** requires a total of eight additional courses and an average above 75%
- Learned **object-oriented programming** in **C++** in *Digital Computation* and *Data Structures and Algorithms* courses