KELLY DENG

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EDUCATION

Bachelor of Engineering (Co-op): Software Engineering **Expected in Spring 2025**
McMaster University **Hamilton, Canada**
- **CGPA**: 11.0/12.0 | **Academic Accolades**: Dean's Honour List (2024, 2022, 2021)
- **Notable Coursework**: Large System Design(A); Concurrency(A); Data Structures & Algorithms(A); Linear Optimization(A+); Databases(A); Dynamic Systems and Control(A); Digital System and Interface(A).

PROFESSIONAL EXPERIENCE

Developer Intern **May 2024 – August 2024**
Equinix **Toronto, Canada**
- Created an automation for customer reports delivered in real-time to Teams using **Python, Pandas & Excel** by accessing internal software (**vCenter, NetBackup**) with **REST APIs**. The report contains each customer's virtual machines' information and backup configurations, Helps drive up sales and improve customers' understanding of their configuration. Saves **100+** hours every month.
- Leveraged Memory Capacity Report using **Python** to exclude information about ineffective hosts and their memory size / number of cores in the cluster. Improves clarity of the report and avoid misunderstandings for Infra team. Saves over **10+** hours each month.
- Actively participated in the code review process, identifying bugs, providing constructive feedback and ensuring code quality.

Agile Developer Intern **Sep 2022 – Apr 2023**
SAP **Vancouver, Canada**
- Monitored workstream of over **100+** commits per day and helped resolve regressions / merge conflicts to ensure daily merges, actively communicating with developers to seek a fix.
- Performed Build Acceptance Tests on production / development tenant to check the microservices functionality on a weekly basis, work with external group to fix automation issues and report functional issues to responsible teams, increasing passing rate from 40% to **90%+.**
- Created Jenkins jobs to help make repetitive work into automation process **(see projects below).**
- Configured Git and Github to use technical user to avoid re-configuration after quarterly handover.
- **Tenant Creation (Python, Postman & Jenkins)**
  Created a Jenkins pipeline used by various teams that create new test tenants on different test landscapes, uses Hashicorp Vault API to read XSUAA secret stored inside the pseudo-service and generate a JWT token to interact with microservices. Saves **10+** hours per month
- **Fix Automate Bat Setup (Bash, Postman & Jenkins)**
  Maintained and improved the script that streamlines the setup of new test landscapes by pre-loading test content and configuring the system using internal API. Fixed Oauth workflow and various content import issues. Saves **5+ hours** per setup.
- **Version Control Management (Java)**
  Jenkins pipeline runs daily to check **120+** microservices via internal API to track the versions of specific libraries, notify via email and Slack when deprecated / vulnerable versions are used in production, and print results in human-readable form. Saves **10+** hours per month and improved team efficiency.
- **Trespass Bot Enhancement (Python)**
  Jenkins job triggered every hour that detects active changes in Git containing file(s) outside its owner workstream, if so the bot will send a warning comment in Git and in Slack channel. The bot sends another message if the change is merged. This bot is a branch management tool that warns the change owner that trespassing might cause merge conflict, reducing merge conflict by around **20%.**
- **Gerrit Auto Reviewer (Python)**
  Auto-triggered Jenkins job that watches specific files in Git and validates the syntax using regular expression. Prevents malformed files from submission.

PROJECTS

AI for Chest X-ray Read (PyTorch, JavaScript) | SFWRENG 4G06: Capstone Project **Sep 2024 – Current**
- Leading a team of 5 to develop a supervised learning AI model that uses image classification and deep learning techniques to identify potential lung / cardiac diseases in chest X-ray. Model is trained by using open-source datasets (ChexPert, Physionet)
- Designed a frontend using **JavaScript** that interacts with the backend of the model.

Messaging App (Java, SQL & Android Studio) | SFWRENG 3A04: Software Design III - Large System Design **Jan 2024 – Apr 2024**
- Worked with project team of 4 to develop secure messaging app using AES encryption and system design techniques.
- Leveraged SQL database to store login info in cloud, send and receive messages and files, create group chats and maintain chat logs.

EXTRACURRICULAR EXPERIENCE

Research Student **Sep 2021 – Mar 2022**
McMaster MacChangers Program **Hamilton, Canada**
- Leading a team of 4 to create a brochure and a series of videos introducing common conservation area regulations and tips for newcomers.
- Coordinated with 3 stakeholders from Hamilton local government (Environment sector) to identify needs and current challenges, presented final solutions to local government.

SKILLS

- **Coding Tools**: Python, Go, Java, Junit, Julia, REST API, C, SQL, DB2, Bash, PyTorch, Jenkins Pipeline, Groovy & Verilog
- **Source-Code Tool**s: Git Bash, Git Extensions, Postman, Visual Studio Code, IntelliJ IDEA & Jupyter Notebook
- **Productivity Software**: Jira, Gerrit, Git, GitHub, GitLab, MS Teams, Slack & Google Docs
- **Professional Skills**: Object-Oriented Programming, CI/CD, Software Engineering Design, Agile Testing, Source Code Management, Database Design & Management, Software Security, Algorithm Design, Software Architecture
- **Qualitative Skills**: Problem-Solving, Teamwork, Analytical Thinking, Leadership & Detailed-Oriented