NING ZHANG | ningz0227@gmail.com | 385-630-2448 | [Portfolio](#) | [LinkedIn](#) |

EDUCATION

- **Master of Science in Information Systems | *Trine University*** *Jan 2024 – Present*
- **Bachelor of Science in Computer Science | *University of Utah*** *Aug 2018 - Dec 2022*

PROFESSIONAL EXPERIENCE

Software Engineer | TaxBit | Mar 2022 – July 2023

- Implemented file download service by employing **AWS S3**, **DynamoDB**, **Redshift**, and **NestJS**. Reduced latency of download time by 50% for extensive datasets.
- Designed and shipped Automated End to End test suit with **Playwright**, **Auth0**, **Docker**, **AWS ECR**, and **CircleCI** for existing service, decreasing bug detection and response time by 90%.
- Collected user requirement, designed, and tested APIs using **AWS SAM**, and **Postman** to enable internal data transfer supporting feature development across 20+ engineers in ingestion engineering team and tax engine team.
- Identified optimization opportunity by migrating backend codes from **Clojure** to **Typescript**, reducing lambda cold start latency by 350%.
- Owned maintenance of existing product features including debugging, unit tests and end-to-end testing using **Jest** and **Datadog**, achieving <1% of feature error rate.
- Designed and shipped Transaction Classification feature using **AWS Aurora RDS**, **PostgreSQL** and **AWS Lambda** enhancing product differentiation and market competitiveness.
- Collected reporting requirements across functions (product manager and engineers), and designed ETL ingestion pipeline using **Lucidchart**, **Confluence**, and **AWS workflow Studio** to enhance business intelligence functions.
- Participated in sprints using **Agile**/**Kanban** methodology, managing the backlog, daily stand-up, and retro meetings.

Full-Stack Engineer (Intern)| The Western United States Pipe Band Association| Jan – Dec 2021

- Collaborated with data engineering team to design schema, created **SQL** database, and enabled user authentication leveraging **AWS Amplify** and **AWS Cognito** Identity.
- Refined user requirement. Implemented mapping and calendar services using **Google API**, and payment service using **PayPal API**.
- Formalized best practices into frameworks, refactored legacy code to improve testability and maintainability, tested APIs using **Postman**, and documented APIs at scale using **Swagger**.
- Communicated and presented to internal teams and stakeholders on project status, risks, and solutions to improve functionality.

PROJECTS

Web Scraping (Python, BeautifulSoup)

- Ethically scraped web content after verifying compliance with /robots.txt, using Python scripts.
- Employed **BeautifulSoup** for data cleaning and parsing, transforming HTML content into structured data, and refining website information through custom filters and sorting.

Machine Learning (Python, ImageAI, Jupiter Notebook, Pandas, Seaborn, bokeh)

- Engaged in a comprehensive learning journey covering various Machine Learning stages, including data importation, cleaning, splitting into training and test sets, model creation, output evaluation, and model enhancement, utilizing **Jupiter Notebook**.
- Innovated an Image prediction application leveraging the ImageAI library.

Flask Web Development (Python, Flask, HTML, CSS, JavaScript, Selenium)

- Conceptualized and executed a portfolio website using **Flask**, integrating **HTML**, **CSS**, and **JavaScript**.
- Implemented **Message Flashing** for error handling and form submission feedback.
- Developed Automated Tests with **Selenium**, ensuring systematic functionality verification.
- Incorporated a single-page application, 'Password Checker', applying **k-anonymity** for secure communications with third-party APIs.

Database Management System (Python, GraphQL, Tkinter, Pandas, Pynum)

- Orchestrated a **GraphQL** API-standard database management system, transitioning from RESTful to GraphQL to optimize query performance.
- Devised a customizable user interface for data filtering using **Tkinter**.
- Utilized **Pandas** and **Pynum** for data cleansing and processing over 10,000 data rows.

SKILLS

- **Language:** Java, Python, Dart, JavaScript, HTML/XML/CSS, Typescript, Clojure
- **Framework|SDK|Runtime Environment:** Flutter, Junit, NestJS, Node.js, Flask
- **CI/CD:** GitHub Action, CircleCI
- **Tools:** SQL, NoSql (MongoDB), DynamoDB, PostgreSQL, Playwright, Auth0, AWS Amplify, AWS Cognito, AWS Lambda, AWS PostgreSQL, AWS Redshift, AWS Serverless, AWS SAM, Git, Docker, Bootstrap, Postman, Swagger
- **Others:** Restful API, GraphQL, Unit Test, Data Structure, Algorithms, Assembly, Object-Oriented Programming, Linux