

# ROSEMARY YANG

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## EDUCATION

**Carnegie Mellon University** – Pittsburgh, PA  
*B.S. Information Systems, Minor in Computer Science*

Aug 2022 – May 2026

GPA 3.8/4.0

## SKILLS AND TOOLS

**Languages:** Python, Java, JavaScript, C#, C++, C, Ruby, React, SQL, HTML, CSS, SML, JSON, UML, XML

**Tools:** Linux/Unix, Amazon Web Services (AWS), Google Cloud Platform (GCP), ArgoCD, Terraform, Kubernetes, Pytorch, Tensorflow, AJAX, NodeJS, RestAPI, PostgreSQL, MongoDB, RStudio, Azure, Tableau

## WORK EXPERIENCE

### Summer Analyst

Jun 2025 – Present

*Morgan Stanley Hong Kong Limited* – Hong Kong

### DevOps & Data Engineer Intern

Jun 2024 – Aug 2024

*Next Tier Concepts* – Vienna, VA

- Employed a Knowledge Graph Neural Network to accurately forecast ammunition deficits for US Army battalions.
- Generated synthetic mission data, integrating scenario elements and vehicle configurations, and used these variables to train a machine learning model to predict ammunition consumption over time.
- Automated the management of a Windows Server virtual machine using GCP and employed ArgoCD for continuous delivery and deployment in a Kubernetes environment to integrate a new application into existing architecture.
- Executed unit tests using PyTest, performed system integration testing using Postman to validate API functionality.

### Software Engineer Intern

Jun 2023 – Aug 2023

*Peblla, Inc.* – Rockville, MD

- Revitalized sales for 60+ restaurants with AI to automate customer segmentation and provide marketing strategies.
- Improved data insights by implementing preprocessing techniques such as outlier detection and PCA analysis.
- Developed a clustering model that identified customer segments with the most potential for return growth.
- Optimized marketing and promotion effectiveness by developing a time-series classification model for sales forecasts.

## TECHNICAL PROJECTS

### Generative Facial Aging Model

November 2024

- Designed and implemented a novel age modulation network for age manipulation, achieving realistic wrinkle generation and skin tone changes across age ranges from 25 to 100 while maintaining facial expression consistency.
- Achieved an 18% improvement in texture consistency through the integration of Dis\_PatchGAN and VGG-based perceptual loss, enhancing fine-grained texture realism and high-level structural fidelity.
- Reduced identity reconstruction error by 30% in experiments on a pilot subset of FFHQ images, while maintaining high-quality expression transformations.
- Addressed significant data challenges by developing custom pipelines for age annotation and dataset integration, while overcoming OpenCV dependency issues for Action Unit extraction through optimized pre-processing solutions.

### NodeBB Forum Platform Enhancement

October 2024

- Implemented an anonymous posting feature on the NodeBB platform by modifying payload structures, role-based visibility permissions, and integrating frontend/backend components, including adjustments to a new UI button.
- Led the integration of an OpenAI LLM for real-time text translation, testing and deploying with a frontend UI button.
- Built and managed a CI/CD pipeline using GitHub Actions, automating testing, building, and deployment workflows while conducting unit, integration, and end-to-end testing to ensure reliability and maintainability.
- Deployed and managed the platform on Azure, optimizing for scalability and performance, while collaborating with a team on GitHub for version control, push/pull requests, and code reviews.

### Crime-Tracking Website

April 2024

- Engineered a full-stack scalable crime-tracking application, handling both front-end and back-end development with Ruby on Rails for back-end services using MVC architecture and React for dynamic front-end features.
- Developed REST APIs to facilitate data integration and real-time updates between front-end and back-end systems.
- Designed and managed a SQL database using a 3NF schema and an Entity-Relationship Diagram (ERD) to model complex data structures, optimizing data management and retrieval.