HENRY LUENGAS

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EDUCATION

California Polytechnic State University – **San Luis Obispo**	College of Engineering Bachelor of Science in Computer Science	Sep 2015 – Jun 2020

SKILLS

Systems, Frameworks, Apps	Linux/Unix, Docker, Podman, Kubernetes, Helm, Terraform, Azure, SQL, OpenGL, OpenCL
Programming Languages	Python, C, C++, JavaScript, Julia, Rust, Elm
Network Infrastructure	TCP/IP, VLAN, 5G Core & RAN, WiFi, SDN, VPN

EXPERIENCE

Senior Software Engineer – AT&T Shared Platforms & Automation – Dallas, TX   Oct 2022 – Present

Shared Platform Ops Team
- Operated several geo-redundant shared cloud platforms used by AT&T developers for application deployment both on-prem and in MS Azure
- Provided platform maintenance, including both security patching and delivery of new platform features from the platform development team
- Supported application developers using the shared platform for deployment

Network Engineer – AT&T Technology Development Program – Dallas, TX   Jan 2021 – Oct 2022

Software Engineer Rotation – Wireless Technology, Network Analytics & Automation
- Containerized several scripts used for daily analysis of large datasets from the mobile network
- Deployed these scripts as Kubernetes cronjobs on Azure using Terraform and Helm

Specialized Networks Consultant Rotation – Consulting, Mobility & IoT Professional Services
- Developed, deployed, and presented 5G & IoT technical demonstrations highlighting video intelligence use cases to Private Cellular Network customers
- Implemented a containerized video transcoding server to stream 5G camera footage to internet video platforms using Docker and FFMPEG
- Served as an administrator for the AT&T 5G Technical Associate Certification Course and led lectures on container virtualization

Data Steward Rotation – Network Cloud, Blue Train Fabric Automation
- Automated cleaning and formatting process for physical and virtual network device setup data used by AT&T's internal cloud platform using Python and Excel

PROJECTS

Tie-Dye Pixel Art Renderer
- Wrote a renderer in Python with the goal of investigating various methods of process acceleration
- Implemented sequential and parallel running modes to investigate the performance of CPU parallelism
- Implemented a GPU compute mode with OpenCL to show how the process scales to hundreds of workers
- Implemented an R*Tree spatial data structure to display the speedup possible with an optimized algorithm

3D Marble Run Platformer Game
- Collaborated with a group to create a game from scratch in C++ and OpenGL
- Features include physics simulation, a spatial data structure, PBR shaders, shadow-mapping, environment mapping, view frustum culling, positional audio, enemy AI, and an adjustable third person camera

AI Video Summarization Tool
- Worked with a group to create a utility to pare down security camera footage using AI image recognition
- Developed in Python using YOLOv3 for object detection and OpenCV for image manipulation

Networked Chat App and Packet Analyzer
- Wrote client and server programs in C that use TCP to convey custom message packets between users
- Created a utility in C that uses NPCAP to inspect packets, functioning like a basic version of Wireshark