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

Programming Languages	Python, C, C++, JavaScript, Julia, Rust, Elm
Systems, Frameworks, Apps	Linux/Unix, Vue.js, Docker, SQL, OpenGL, OpenCL, Unity3D, MS Visio
Network Infrastructure	Routing, Switching, VLANs, 5G Core and RAN, WiFi, SDN, VPN

EXPERIENCE

Network Engineer – AT&T Technology Development Program – Dallas, TX — Jan 2021 – Present

Specialized Networks Consultant – 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 – Network Cloud Blue Train Fabric Automation Team

- 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

Web Developer – TDP Internal Website

- Developed new front end features for the TDP internal website using Vue.js
- Managed the development team's DevOps toolchain in Azure

CERTIFICATIONS

SAFe 5 Agilist Certification - Scaled Agile — Mar 2021 – Present

PROJECTS

Tie-Dye Pixel Art Renderer

- Wrote a renderer in Python with the goal of investigating various methods of process acceleration
- Implemented JIT compilation using NumPy and Numba to show the drawbacks of the Python interpreter
- 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

System Building & Networking

- Built a virtualization server to use as a NAS, DNS resolver, Sophos UTM security gateway, and container host

Hangman WebApp (hangman.luengas.dev)

- Built a hangman webapp using Elm to learn more about web development and functional programming