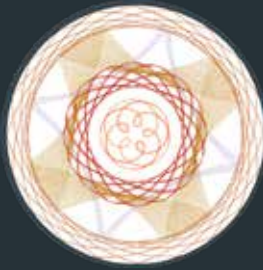# MATT LATHROP
Creative Technologist

Image From My First Major Coding Project

ABOUT ME

It is my passion to introduce technological innovations to people that help them thrive. My knowledge of computer science, technology, and various art forms enables me to bridge the gap between technology, business and design to bring solutions to problems that others may have thought were impossible.

CONTACT

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🌐 www.mattl.info

SKILLS

Product Management

Cross-Functional Communication

C Programming

C++ Programming

Image Processing & OpenCV

Computer Graphics

A.I. Systems

Python Programming

Graph Databases

TOOL PROFICIENCIES

- Git
- JIRA
- Asana
- MS Office
- Adobe CC
- Unity
- MATLAB
- Docker
- Arduino
- CAD
- OpenGL

RELEVANT EXPERIENCE

THE WALT DISNEY STUDIOS

Project Team Lead **2022 - Present**

I work in StudioLAB an innovation lab within the Studios. I am a project team leader driving projects from pitch through completion from both a technology and product perspective.
- Currently I am leading a team to create an A.I. powered VFX element, footage, and asset search across multiple independent asset management systems (i.e. ShotGrid, FileMaker, etc) using RAG, multimodal embeddings models, and event based workflows.
- Managed a team of 7 to deliver a LLM and knowledge graph based story management tool for Marvel's story team and creative executives.
- Negotiated with all 3 major OLED TV manufacturers to add picture settings APIs for our production needs.

BELL FLIGHT

Tech & Product Lead **2020 - 2022**

I worked in the innovation group as a tech & product lead to identify disruptive technologies and guide the team to build P.O.Cs to demonstrate the value of the technology
- Built A.I. based component layout system that helped eliminate wire weight from the aircraft improving the company's proposal for the multi-billion dollar F.A.R.A. proposal.
- Created numerous prototypes including a VR flight simulator with real simulation grade physics, a scalable fleet management platform for unmaned aircraft, a radar data capture system, and a Azure cloud based flight log processor for experimental aircraft.

TACTUAL LABS

Software Engineer **2020 - 2021**

I created an SDK for the novel embedded BendShape Sensor in C++ and Python. Involved building examples, GUIs, and detailed documentation.

TOPAZ LABS

Product Engineer **2020 - 2020**

I was given control of Video Enhance AI and tasked with improving the NPS score.
- Exceeded the goals set for me and raised the score from 5 to 40 in 90 days by talking with customers to identify their needs and then adding features based on feedback.
- Served as the scrum master for the team and often balanced competing priorities.

PRODUCTION RESOURCE GROUP (PRG)

Software Engineer **2019 - 2020**

I was on a small team working on the Mbox Media Server. The software allows live playback of video while adding effects, transitions, and visual corrections in real-time.
- Built a new warping and keystone visualizer interface to improve user experience.
- Implemented a plan for a new network communication protocol.

MISAPPLIED SCIENCES

Lead Software Engineer & Media Designer **2016 - 2019**

I brought a new technology, Parallel Reality, to life. I led the company's software development covering everything from low-level hardware communication to product demos.
- Built an API and GUI application with 2D and 3D interfaces for designing experiences.
- Developed a computer vision & machine learning based calibration procedure.
- Created a full suite of creative demonstrations that utilize tracking technologies, web apps, and complex generated content for investors, clients, and media.

EDUCATION

STANFORD UNIVERSITY

B.S. Computer Science & Theater Minor **2012 - 2016**

Topics Studied:
Abstractions, Methodology, Memory, Concurrency, Networking, Assembly, Rendering, Shading (GLSL), Texturing, Vectors, Quaternions, Linear Algebra, Raytracing, Unity Game Engine, Computational Imaging, Imaging Systems, Computer Vision, Digital Photography, Color Spaces, Lightfields, Linux Development, Java

Major Projects:
- Capstone Project - Inexpensive LED Video Wall
- Computational Imaging Final Project - Lightfield Video Technology
- Unity Video Game - CHNOS

PUBLICATIONS & AWARDS

LG DISPLAY MANAGEMENT FOR "COLOR-CLOSE" APPLICATIONS

Accepted to present a talk at SMPTE 2024 on how Disney worked with major TV manufacturers to add APIs for easier color management for our production use cases.

ADAPTIVE ENVIRONMENTS WITH PARALLEL REALITY

Presented a talk on how Parallel Reality can be used to help people thrive in difficult environments at SIGGRAPH 2019.

INEXPENSIVE ARDUINO-BASED LED VIDEO WALL

Published in TD&T 2016 Summer issue. Recipient of award from Managing Director of Garage Technology Ventures and the Herbert D. Greggs Award from USITT.

WYSIWYG LIVE FIXTURE CONTROL

Paper published in TD&T 2015 Winter issue involving the live control of moving lights as follow spots. Full Text: www.mattl.info/publications/