
NATHAN GOLLAY

EDUCATION

- B.S. in Liberal Arts and Engineering Studies (LAES) with concentrations in **Machine Learning** and **Logic/Ethics**, Cal Poly SLO 2024.
- Minors (3): **Computer Science**, **Math**, and **Philosophy**

EXPERIENCE

EXPANDING KNEE REPLACEMENTS FOR CHILDREN WITH ARTHRITIS: 2021

Developed an issue-driven solution to account for adolescent growth in children with knee disorders. Used chemical engineering and structural analysis to ideate and approximate workability of an oxidation driven expansion rate in a layered titanium prosthesis.

COMPUTER VISION FOR REAL-TIME OBJECT TRACKING: 2022

Pioneered development of mass-data algorithms for tactile interaction with a 3D projector screen- converting a 3D projector into a touch screen. Optimized with multithreading. Used Hough's algorithm, perspective transforms, and machine learning with OpenCV.

HEAD MANAGER OF MOBILE APP DEVELOPMENT TEAM FOR FISA-B: 2023

Led 6 developers in front-end, back-end, and UI/UX teams towards development of a multi-platform mobile application using React Native. Implemented scrum meetings with Agile, managed project backlog with Trello, and delegated sprint tasks.

PROFICIENCIES

- Languages: Java, Python, C, C++, Swift, MySQL, Assembly, etc.
- Image Processing, Convolutional NNs, Recursive NNs, Reward Based Optimization
- User-time algorithms and multithreading
- Command Line, Linux Systems, GCC, etc.
- Knowledge of Distributed Systems
- Backend Development (MySQL, APIs)
- Cloud based computing (Azure, AWS, Digital Ocean)

PROFESSIONAL SKILLS, QUALITIES, HOBBIES

- Research, Public Speaking, Engineering Mind, Problem Solving, Superior Writing
- Collaborative, Persistent, Compassionate, Curious, Innovative, Adaptable
- Knowledge and Data Extraction, Device Manipulation, CAD & 3D Printing, Software

OTHER PURSUITS

Advanced Open Water (AOW) certified Scuba Diver, Super Complex Origami Designer, Surf Photographer, Back Country Skier, Recreational Drone Photographer, Micro-Financing Intern in Bangalore, India, Mountaineer: Mt. Fuji, Himalayas- SAR Pass.