

John Dallas Cast

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Computer Vision /Deep Learning: 5+ years **Full-Stack Software Development:** 7+ years

EDUCATION

JOHNS HOPKINS UNIVERSITY, Baltimore, MD

- **Master of Science - Engineering Degree in Robotics** Expected Apr, 2023
 - **Focus:** Perception

STANFORD UNIVERSITY, Palo Alto, CA

- **Master of Science Degree in Electrical Engineering** June, 2015
 - **Focus:** Lasers, Optoelectronics, Quantum Electronics
- **Bachelor of Science Degree in Electrical Engineering** June, 2012

RELEVANT COURSEWORK AND SKILLS

Computer Vision, Augmented Reality, Deep Learning, Kinematics/Dynamics, Keras, Tensorflow, PyTorch, Python, Unity, HoloLens 2, Coffeescript/Javascript, C++, Arduino/Raspberry Pi, Meteor, MongoDB

WORK EXPERIENCE

Intern JHUROVII, Baltimore, MD Jun 2022 – Present

- Worked in team to assemble all major sub-systems (e.g. chassis, electronics, code, housing, etc.)
- Wrote and debugged thruster node in ROS
- Designed CAD model for thruster oil compensator
- Characterized thrusters
- Currently assembling endcaps for housing and will water test the housing soon

Sole Proprietor AQUAEYE.AI, Palo Alto, CA Aug 2019 – Apr 2021

- Trained, tested and deployed fish identification tensorflow models
- Configured cloud computing for tensorflow models
- Built website to host models with live view of fish exhibits
- Collected/cleaned train/val/test databases (2D video/2D images)
- Produced synthetic train/val/test data (2D images)

Software Engineer MATTHEWS SOUTH, Palo Alto, CA Jan 2015 – July 2021

- Authored most of Front-End and helped design/write Back-End API for Front-End
- Built projects in financial modeling/NLP

Machine Learning Researcher DOLPHIN AI, Palo Alto, CA Jan 2017 – Jan 2019

- Identified / Classified roof features in aerial imagery
- Designed/Trained CNNs for edge-detection / roof-identification / roof-segmentation Collected/Annotated 2D drone/satellite Image Data
- Implemented research papers

Machine Learning Engineer TARSIER, Palo Alto, CA Sept – Dec 2016

- Built autonomous recognition of UAVs in image/video (2D video/2D images)
- Wrote GUI in python
- Trained and docker-installed core model, Inception V3 in Keras + Tensorflow
- Team received Honorable Mention Award in MD5 Hackathon

Mission Assurance Intern

SPACEEX, Hawthorne, CA

Jun – Sept 2014

- Wrote EELV certification tracker software package in python and collaborated on EELV EMI certification
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RESEARCH EXPERIENCE

- **MSE in Robotics Thesis (Ongoing):** Cooperative, Real-time, Augmented Reality – Professor Mathias Unberath – Johns Hopkins University
 - **Paid Lab Assistant:** JHU-ROVII Project – Professor Louis Whitcomb – Johns Hopkins University
 - **Summer Research:** LASER characterization – Professor Gary Swenson – University of Illinois Urbana-Champaign
 - **Research Assistant:** SnowFort Project, Fiber Optic Gyroscope Project, Thunderstorm UAV – Stanford University
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PUBLICATIONS

- *Wenhao Gu, Jonathan Knopf, **John Cast**, Leonardo Guibert and Mathias Unberath. Nail it! Vision-based Drift Correction For Accurate Mixed Reality Surgical Guidance. 2022.*