CHRIS STATHIS

https://linkedin.com/in/cstathis ◇ cstathis@gmail.com
+1 203-640-9625 ◇ 28 Circle Road, Redwood City CA

SUMMARY

Hands-on technical lead in perception for robotics with 14 years of experience working toward real customer applications. Expertise in SLAM, scene reconstruction, object detection and tracking, and high-performance systems software. Passionate about taking robots from prototype to production.

EXPERIENCE

Figure AI
Staff Engineer, Perception *Jan 2024 - Present*

2nd member of the perception team. Built vision capabilities from the ground up for navigation and mobile manipulation in industrial use cases, starting with modular architectures and gradually pivoting toward end-to-end vision-language-action (VLA) efforts.

Boston Dynamics
Autonomy Team Lead, Spot *2021 - 2024*

Led and managed a 10-person team responsible for all aspects of perception and autonomy for the Spot product. Scaled the project to 1,000+ units shipped and 500+ hours mean time to operator intervention in real world customer deployments.

Perception Engineer *2015 - 2021*

Individual contributor for Spot with projects in terrain characterization, vision and lidar-based SLAM, vision sensor integration and applications of ML to industrial asset inspection.

Sikorsky Aircraft / Lockheed Martin
Perception Engineer, Autonomy Programs *2011 - 2015*

Perception software engineer for the Sikorsky Autonomy Research Aircraft, a 12,000 pound helicopter retrofitted for optionally-piloted navigation, take-off and landing.

SELECTED RECENT PROJECTS

Scalable data collection strategies for VLA pre-training

Mobile egocentric data collection strategies for humanoid robots with high DOF hands. Evaluating methods for head tracking, hand tracking, physical operator interfaces and modes of end-effector feedback.

Perception stack for precise automotive part manipulation

Instance segmentation and object pose regression for specific automotive sheet metal parts, sub-centimeter accurate landmark pose estimation, and multi-object tracking for precise pick-and-place tasks. Achieved **98% task success rate** in a customer pilot running full day shifts for several months.

Visual-inertial odometry and SLAM

Building an in-house classical visual SLAM stack for state estimation at 50 Hz, fusing IMU data with feature tracks from a multi-camera rig. Achieves excellent open loop performance at lower computational cost compared to standard open source methods.

Camera and kinematic calibration systems

Designed an automated factory calibration system for fisheye lens intrinsics and camera-IMU extrinsics typically achieving **<0.25 px reprojection error**. Trained a keypoint detection model for **full-body joint offset calibration** in the field with no fixed infrastructure.

Building-scale navigation for robustness testing

Built an offline mapping and scene reconstruction stack for building-scale navigation, using learned stereo depth model feeding a CUDA-accelerated voxel mapper for online obstacle avoidance.

Middleware and development tools

Contributed to a custom zero-copy shared memory IPC framework that minimizes overhead of CPU and GPU transactions across modules. Built various internal tools for test, visualization and replay used throughout the company.

Hardware architecture for humanoid robots

Sensor and compute hardware architecture requirements development and design to meet functional and industrial design constraints. Defined sensor layout, set optical and electrical hardware requirements, interfaced with Tier 1 suppliers, evaluated prototypes.

DEMO VIDEOS

Figure at BMW [link]

Sheet metal manipulation behaviors deployed to an automotive production line.

Spot at Chevron [link]

Spot deployed for autonomous inspection of critical infrastructure at an oil refinery.

Spot Stair Climbing and Navigation [link]

Early demonstration of terrain sensing and navigation capabilities.

SKILLS AND TOOLS

Languages	C++, Python, C, Kotlin
Libraries/Tools	Ceres, GTSAM, Torch, CUDA, OpenCV, IsaacSim, MuJoCo

EDUCATION

M.S. Electrical Engineering, Columbia University 2012 - 2015
Completed part-time while working full-time

B.S. Physics, Ithaca College 2007 - 2011
Minor in classical music performance