

KENNY BOWERS

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EXPERIENCE

Senior Autonomy Engineer - Motion Planning

Anduril Industries

Oct 2020 – Current

Atlanta, GA

- Began employment at Area-I (Anduril's first major acquisition a few months later) owning the motion planning capabilities of Altius, a fixed-wing tube-launched drone. This included researching, implementing, and benchmarking novel and state-of-the-art algorithms being delivered to multiple critical programs.
- Initiated the transition to being a company-wide Motion Planning SME, driving adoption of Altius' algorithms to other Anduril products which improved delivery time, reliability, and minimized risk for multiple programs.
- Engineering Lead on multiple programs, breaking down large problems into tasks for the various subteams involved. My goal is to first define MVP system interfaces that enable iteration and contained maturation for each component as you receive feedback from testing and demonstration.

Autonomy Research Engineer

Georgia Tech Research Institute

July 2017 – Oct 2020

Atlanta, GA

- Scoped the design and C++ implementation of real-time motion planning algorithms for multi-agent aerial systems, delivering to various DoD customers on high-profile programs. This involved decomposing problems and assigning tasks to the team.
- Repeatedly demonstrated taking vague or near-zero requirements from customers, and proposing a scoped problem to investigate. One project resulted in three publications on fundamental research in bio-inspired swarm algorithms in a one year span, and another increased budget by an order of magnitude due to strong interest by the customer.

Software Engineer

Boeing Research and Technology

June 2014 – July 2017

Charleston, SC

- Developed algorithms and simulations for robot arm path planning and inkjet control to enable painting artwork directly onto contoured aircraft surfaces. The project was showcased during a POTUS visit, and resulted in four patents on robotic control and airplane surface inspection as it neared production-trial readiness.
- Implemented surface inspection tooling of airplane surfaces to geometrically associate robot arm position and lidar sensor readings to compare against the expected results. This flagged micrometer anomalies and would warn the operator, detecting defects that would have been missed.
- Volunteered to manage the collaboration between Boeing and Clemson University to sponsor Clemson's ECE Senior Project. This included designing the project challenge for the students and judging the results at the demonstration.

STRENGTHS

C++

Python

Docker

CMake

Algorithm Design

System Design

Motion Planning

Computational Geometry

Machine Learning

Computer Vision

EDUCATION

M.Sc. in Computer Science

Georgia Institute of Technology

2016 - 2018 (part-time while working full-time)

Robotics and Computational Perception

B.Sc. in Computer Engineering

Clemson University

2010 - 2014

PUBLICATIONS

Patents

- et al., A. B. (2018, 2019). Verification of tow placement by a robot.
- et al., A. B. (2019). Automated controls for contoured surface inkjet printing.
- et al., L. W. (2019). Live metrology of an object during manufacturing or other operations.

Conference Publications

- et al., G. C. (2018). Bio-inspired nest-site selection for distributing robots in low-communication environments, Practical Applications of Agents and Multi-Agent Systems. 30% Acceptance.
- et al., K. B. (2018). Trust-based information propagation on multi-robot teams in noisy low-communication environments, Distributed Autonomous Robotics Symp. 32% Acceptance.
- et al., L. S. (2018). Bio-inspired role allocation of heterogeneous teams in a site defense task, Distributed Autonomous Robotics Symp. 32% Acceptance.