

Ben Stringer

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BenStringer3

Senior, multi-disciplinary engineer with a passion for autonomous, agentic systems and ML. Cum Laude EE graduate with a national NASA competition win, a patent application, and a decade of experience in multiple domains: R&D, aerospace, robotics.

Selected Projects

Behavior Tree Mission Execution Framework: *Python, C++* — General mission execution framework for autonomous aircraft; enabled behavior reuse across missions/aircraft in a framework that is both expressive and deterministic. Patent submitted.

Reinforcement Learning on Quadcopter: *Python, OpenAI Gym, TensorFlow* — Trained a PPO agent (OpenAI Gym) to autonomously herd Roombas across a goal line; achieved 75% of maximum possible score in simulation.

Affordable OpenClaw: *Python, ML Studio, OpenClaw, Chroma, LangGraph* — Ongoing project to make OpenClaw more affordable via a custom agent harness and locally run LLM.

Variable Drag System (VDS): *Embedded C++, Matlab Simulink* — Active airbraking system for high-powered rocket. Real-time state estimation, trajectory prediction, and drag-blade control. Delivered rocket to 5,303 ft (target: 5,280 ft) in the NASA Student Launch competition.

Neural Network Engine (NNE): *C++, Matlab* — Custom C++ machine learning engine built from scratch, featuring a self-written matrix library and modular, polymorphic layer architecture (convolutional, pooling, MLP). Applied to MNIST digit classification; supports Adam optimizer.

Experience

Noyes Robotics

Senior Robotics Software Engineer

Munich, Germany

Jan 2022 – Present

- Designed algorithms for an online, multi-agent robotic coordinator in a multi-level storage warehouse
- Created simulation (digital twin) of warehouse and integration-testing suite
- Responsible for DevOps - CI/CD pipelines with Github Actions/Pytest, deployment with Ansible/Docker
- Created B2B FastAPI for customer integrations
- Stack: ROS2, Python, Docker, Pytest, MQTT, PyQt, Github Actions, Ansible, AWS, FastAPI

Aurora Flight Sciences (a Boeing Company)

Autonomy Developer Engineer

Cambridge, MA, USA

Aug 2018 – Oct 2021

- Designed, implemented, and simulated autonomy algorithms for pilotless aircraft including last-mile package delivery and urban air mobility (eVTOL) applications
- Independently designed and prototyped a general mission execution framework based on Behavior Trees
- Pitched design to leadership and secured a team of four engineers to scale the work; led the resulting year-long development effort
- Framework enabled advanced autonomy behaviors and significant behavior reuse across missions
- Submitted patent application for the Behavior Tree framework
- Stack: Python, Matlab, Simulink, C++

Raytheon Missile Systems

Guidance, Navigation, and Control Intern

Tucson, AZ, USA

Apr 2017 – Dec 2017

- Implemented a Kalman filter in Matlab and ported it to C++
- Wrote a simulation in Matlab Simulink to test navigation algorithms
- Integrated algorithms in a high-fidelity 6DOF simulation written in C++

Raytheon Missile Systems

Electrical Subsystems Intern

Tucson, AZ, USA

May 2016 – Dec 2016

- Worked in a power lab, ran tests on a prototype power board
- Created test harness GUI in C#

Honours & Awards

May 2017: 1st Place, NASA Student Launch Competition (NASA) — Led 24-person undergraduate team to 1st place among 50 nationwide labs; judged on documentation, design, and altitude accuracy.

Jan 2020: Winner, MIT 6.S191 Deep Learning Lab Competition (MIT) — Winning RNN for Irish folk music next-note prediction; used input-shuffling to prevent cross-song association learning.

Education

University of Louisville

Bachelor of Science, Electrical Engineering

GPA: 3.74/4.0, Cum Laude

Jan 2015 – Aug 2018

Skills

Languages: Python, C++, Matlab, SQL

Tools & Frameworks: ROS2, OpenClaw, Pytest, Docker, MQTT, PyQt, Github Actions, Ansible, FastAPI, LangGraph, Simulink, TensorFlow, OpenAI Gym, Git, Linux, LaTeX

Domains: Robotics Autonomy, Agentic Systems, CI/CD Pipelines, Multi-Agent Path Planning, Behavior Trees, Guidance, Navigation & Control, Reinforcement Learning, Machine Learning