Grant Moe
Data Scientist and Robotics Enthusiast

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Education

Data Science Immersive, General Assembly, Remote; August 30, 2021 - November 23, 2021
12-week full-time immersive educational program strengthening Data Science skills including: Python, SQL, data cleaning, data visualization, regression models, classification models, web-scraping, APIs, NLP, advanced supervised learning, unsupervised learning, time series analysis, and statistics.

BA Psychology with Minor in Information & Computer Science, UC Irvine; June 2013
UC Irvine RoboCup Rescue Robotics Team, successfully gaining admission to the RoboCup 2013 World Championship in Eindhoven, the Netherlands. Organized and led undergraduate research teams for both the Undergraduate Research Opportunities Program and the UCI Multidisciplinary Design Program. Research fellow for Summer Undergraduate Research Program project.

IEEE-RAS Safety, Security, and Rescue Robotics Summer School, Alanya, Turkey; September 2012
Participated in a group project to leverage supervised machine learning to the computer vision task of classifying terrain in urban disaster environments. Worked alongside professionals and academics in the fields of robotics, computer science, and search and rescue. Hosted by the Robotics and Automation Society professional society of the Institute of Electrical and Electronics Engineers.

Projects

Neural-Net Autonomous Racer - Python | Numpy | Pandas | Tensorflow/Keras
For my Data Science Immersive capstone I leveraged what I learned during the course to train a seMy General Assembly Data Science Immersive capstone project. I applied machine learning concepts learned during data science immersive, implemented behavioral cloning with both pre-built and custom constructed/tuned neural networks, and utilized Numpy, Pandas, and Tensorflow/Keras Python libraries with Jupyter notebooks to automate data cleaning and model training. Moderately successful.

OpenAI/Donkey Gym Client - Python
Custom Python client to interact with OpenAI Gym Environment for Donkey Car. Began as a simple effort to use an XBox controller for virtual racing, but mutated into a fully-fledged project to record and organize image and telemetry data for AI research. Gains functionality with every new project. Can currently produce data compatible with Donkey Car machine learning framework, OpenVSLAM, and neural-net autonomous racer capstone.

DIY Robocar - Python | Arduino/C++
Ongoing/neverending effort to build a custom autonomous RC car. Python and C++ code on an NVIDIA Jetson Nano linked to an Arduino-compatible microcontroller interfacing with a steering servo, electronic speed control, and various sensors. Uses custom Bluetooth Low Energy controller for manual driving.

Experience

DIY Robocars Los Angeles, Organizer
2020 - Present
Plan and execute remote and in-person events for Meetup group composed of 88 members. Coordinate with group leadership on long-term strategies to drive member participation.

Los Angeles Robotics Meetup, Founder and Organizer, CRASH Space, Culver City, CA
October 2018 - Present
Hosts monthly Meetup club for those interested in robotics, DIY robocars, autonomous technology

Electronics Fabricator and Creative Technologist, Freelance
October 2018 - Present
Manufactured OpenPath (acquired by Motorola) keyless entry demo units. Worked as a contractor for VTProDesign on projects including Britney Spears - The Zone 30,000 sq ft installation in LA (featured in The New York Times, CNN, and Forbes).

Bookseller, Barnes & Noble, Marina del Rey
August 2015 - October 2018
Greeted and established rapport with customers, identified their needs, and gave recommendations, ordering product as necessary. Tracked inventory levels, sorted stock, and processed all incoming and outgoing shipments. Streamlined the receiving/sorting pipeline, boosting throughput by 200% percent per receiver.

Software Developer - Volunteer, Cognitive Anteater Robotics Laboratory (CARL), UC Irvine
Summer 2013
Developed control and telemetry software for an autonomous Android robot. Created a custom C++ Robot Operating System (ROS) module linking Galaxy S3 robot brain to Ubuntu laptop over peer-to-peer UDP socket. Used ROS to build a graphical user interface and to implement RatSLAM, a biologically-inspired simultaneous localization and mapping algorithm based on rodent hippocampi.

Leadership

Board Member, CRASH Space (“Collaborative Research Association of Social Hacktivity”), Los Angeles
August 2020 - Present

Team Founder, RoboCup Rescue Robotics Team (RoboEaters), UC Irvine
2012 - 2013