

JOHN MANSELL

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Portfolio :: JohnMansell.github.io

GitHub :: JOHNMANSELL

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Software developer. **Udacity Self-Driving car**

Nanodegree graduate. Formerly an analytical chemist

for Los Angeles Department of Water and Power. I

began making the transition into software development

3 years ago. I'm currently working as a remote

contractor as I travel around the world with my wife.

EXPERIENCE

Capstone Project

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- Worked in a team of 5 to program a self driving car for Udacity which followed waypoints, obeyed traffic laws, and used a FCNN to obey traffic lights.
 - Used ROS nodes and catkin workspaces to integrate the modules of the self-driving car.
 - C++, ROS, Catkin

Deep Learning

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- Implemented various neural networks including LeNett and NVidia's End to End network.
 - Traffic sign classifier, behavioral cloning, semantic segmentation projects.
 - Python, Tensorflow-gpu, Keras, C++

Sensor Fusion, Localization and control

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- Extended and Unscented Kalman Filters using RADAR and LIDAR data.
 - Designed a particle filter to map out the local environment using Bayes Theorem and then plan the best path forward with PID and model predictive controllers.
 - C++ and Python

Path Planning

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- Used A* search algorithm and dynamic programming path planning to determine the best path for the vehicle.
 - Predicted environment variables, including the trajectories of other cars, from sensor data.
 - Planned and executed the behavior of our self-driving car using a finite state machine and trajectory generation with splines for smoothness.
 - C++ and Python

Remote Contractor

Aspen Equity Group | 2017 - Present

- Converting linear code into parallel GPU code in CUDA
- redis / mySQL integration
- troubleshooting, updating, reformatting code, and Unit tests

EDUCATION

Concordia University Irvine

B.S. Chemistry
Minor in Mathematics
Summa Cum Laude

Udacity Nanodegree

Self-Driving Car

WORK REFERENCES

I urge you to contact my previous supervisors and professors, as they will be able to give the most compelling testimony of my work ethic.

MATT GEER

Lead Software Engineer

Aspen Equity Group, AEG

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“John is pleasure to work with, always interested in learning new things, and willing to dig into new areas of our system in order to understand them better.”

JOHN W. KENNEY, III PH.D.

Chair: Department of Chemistry

Director: Chemical Physics Laboratory

Professor of Chemistry and

Chemical Physics

Concordia University Irvine

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“John is a smart, creative and innovative self-starter in the laboratory. He possesses tremendous hands-on lab skills. He has an intrinsic insight regarding how to approach and solve difficult problems involving experimental design and implementation.”

ERIK PIERSTORFF PH.D.

Chief Operations Officer

VP, Research and Development

O-Ray Pharma, Inc

Erik Pierstorff, PhD

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“This project required John to work independently and to be self-motivated in order to accomplish defined goals on a timeline. John was required to convey his findings to superiors orally, in informal and formal laboratory meetings, as well as in written synopses of study design and results.”