Domas Buracas

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SUMMARY

Computer Science student with extensive software engineering and robotics experience. Actively pursuing internship opportunities in AI and robotics.

EDUCATION

UC BERKELEY
BA in Computer Science
Expected May 2021

PRINCETON UNIVERSITY
PACT Summer 2017
Program in Algorithmic and Combinatorial Thinking

COURSEWORK

UNDERGRADUATE
Intro to Machine Learning
Intro to Artificial Intelligence
Optimization Models in Engineering
Data Structures and Algorithms
Probability and Random Processes
Linear Algebra
Multivariable Calculus

SKILLS

PROGRAMMING LANGUAGES
Fluent (6+ Years of Experience):
Python • Java
Familiar:
JavaScript • HTML • CSS • SQL

LIBRARIES
OpenCV • TensorFlow • ROS
Numpy • OpenAI Gym • and more...

TOOLS
Proficient:
Git/Github • Ubuntu • Photoshop
Familiar:
Docker • Solidworks

LINKS

Github:// **axquaris**
LinkedIn:// **dburacas**

WORK EXPERIENCE

MIT LINCOLN LABORATORY | Robotics Co- Instructor
Jun 2018 - Aug 2018 | Boston, MA

- Developed an **OpenAI Gym** environment for **swarm reinforcement learning** with an emphasis on risk (chance of individual total failure)
- Programmed a research grade UAV to perform **autonomous line following** and **obstacle avoidance** with **no GPS or motion capture** by learning and applying control theory, computer vision, and **ROS**.
- Mentored students through the replication of above capabilities and their enhancement via the introduction of PID control and depth sensing.

NEUROTECHNOLOGY | Robotics AI Intern
Aug 2017 | Vilnius, Lithuania

- Studied ROS and company's proprietary **SLAM** algorithms for autonomous navigation and **object manipulation**
- Improved object grasping accuracy by modifying algorithms to compensate for inaccuracies in point cloud models

VERISKIN, INC. | Computer Vision Intern
Jul 2016 - Dec 2016 | San Diego, CA

- Built algorithms for cancer diagnosis which quantified tissue hemodynamics with **computer vision** and **signal processing** algorithms

RESEARCH PROJECTS

VISION AND IMAGE PROCESSING LAB | SLAM Researcher
Sep 2018 - Present | UC Berkeley

- Developing new approaches to **Simultaneous Localization and Mapping** on small UAV platforms for the creation of 3D environment maps.

AUV ROBOTICS TEAM | Machine Vision Lead
Sep 2017 - Present | UC Berkeley

- Performing underwater localization and mapping on an autonomous underwater vehicle using **computer vision** and **deep learning** algorithms.
- Competing against other university teams in an underwater **navigation** and **object manipulation** challenge.

DEEP LEARNING ULAB | Researcher
Mar 2018 - Apr 2018 | UC Berkeley

- Surveyed and debriefed others on various approaches to **deep style transfer**
- Added GIF creation to **visualize** the rate and progression of image stylization

PERSONAL PROJECTS

REAL-TIME OBJECT RECOGNITION

- Detected and identified objects in real-time by applying a YOLO9000 **deep neural network** with TensorFlow

BIOLOGICAL SYSTEM SIMULATIONS

- Demonstrated emergent behavioral complexity and other ecological phenomena by coding an interactive simulation
- Implemented a Neural Pattern Generator for generating a quadruped robot's **gait control signals**