A.I. Robotic Internships at Brain Corp (San-Diego, California)

About Brain Corp

Brain Corp (www.braincorp.com) is a Californian, San Diego-based A.I. company that specializes in the development of self-driving technology. Our A.I. tech represents the next generation of artificial brains for robots - it enables machines to perceive, learn, and navigate complex environments, while avoiding people and obstacles. We partner with commercial equipment manufacturers, and global consumer electronics brands, to transform their products into self-driving robots.

We are looking for highly motivated, talented students for a 6 months internship within our organization in sunny San-Diego.

The internships

We currently have up to 5 openings within the A.I. group. Each internship will focus on a different topic, such as:

- **Motion planning:** Improve the quality of our planner and motion controller to efficiently and safely navigate in complex indoor environment. For this internship, we are looking for students with a broad understanding of autonomous navigation and expertise in motion planning algorithms.

- **Perception:** Expand our perception pipeline by developing new filters, implement self-calibration techniques, and fuse multiple sensor modalities into one coherent representation. For this internship, we are looking for students with theoretical and practical knowledge of sensors used in robotics, including cameras (RGB and Depth), LIDARs, sonars, IMUs, etc.

- **Mapping and localization:** Expand our mapping and localization solution in highly dynamic environment. Automatically detect and incorporate persistent

changes in the environment. For this internship, we are looking for students with knowledge and experience of various SLAM and photogrammetry techniques (particle filter based, graph based).

- **Machine learning / AI:** Develop the next generation of A.I algorithms that can detect and classify objects in an indoor environment. Improve the capability of the robot to detect humans, and other salient objects. For this internship, we are looking for students with knowledge and experience in classification and regression algorithms and different machine learning techniques (unsupervised, supervised, reinforcement, demonstration).

- **Simulation environment:** Create photorealistic simulations environments and pair those virtual environments with our robotic operating system. Train robots in a virtual environment and deploy new functionalities in the real world. For this internship, we are looking for students with development experience using 3D games engine, preferably Epic's Unreal Engine 4.

A typical day at Brain Corporation

Interns work side-by-side with top engineers in the industry while having autonomy from the get-go. Interns contribute to user-facing products and are able to see their work go live quickly. Brain Corp fosters a collaborative community, so there's always a sharp mind eager to hear about your next idea. Here is what a day look like as an intern at Brain Corporation

- A quick daily standup meeting to sync with your team
- Go crank on your project, checking-in with your team members throughout the day with questions and updates
- Test your code directly on our robots in the warehouse
- You leave the code in a better state than when you found it (progressive refactor)
- You value reliability, ensured by automated testing (unit, integration and load tests)
- You participate in code reviews to ensure code quality and distribute knowledge
- Continuous integration and deployment of results of your project

You'll be part of the Software Intelligence and A.I. division, you will be directly involved in the innovation of cutting edge technologies.

What you need

- Strong knowledge of CS fundamentals
- Currently pursuing studies in Computer Science or a related field
- Strong communication skills (in English)
- Projects in at least one of the following fields
    - Robotics
    - Machine learning / A.I.
    - Autonomous navigation
    - Perception, sensory fusion, state estimation
    - SLAM
    - Simulation environment for gaming or robotics (e.g., Unreal 4)
    - GPU Optimization (e.g. Open CL)

Preferred

- Previous internship experience at technology company is helpful (but not required)

How to apply ?

To apply, send a resume and a cover letter in english at the following email:
internships.ai@braincorporation.com