

[robotics-worldwide][jobs][Seoul/Metro area] AI/Robotics Engineer, Drone - Kakao Brain

Kakao Brain is looking for exceptional engineers and scientists to work on exciting **drone**-based projects at our main office just outside of Seoul. Multiple openings for DeepDrone team are available for those ready to take on the challenging, vision-based machine perception problems for autonomous **drones**.

Kakao Brain was established in early 2017 to develop future breakthrough technology, service and business by leveraging AI and robotics. Kakao Brain is a subsidiary of Kakao Corp., a household Korean mobile company behind the ubiquitous KakaoTalk messaging service - used by virtually all of South Korea, and available in over 230 countries in 15 different languages. Kakao also provides variety of online/mobile services that bring immense benefit to daily lives of all Kakao users.

Kakao Brain is located in Pangyo Techno Valley special district, modeled after the Silicon Valley. The DeepDrone team (Deep Learning + Drone) at Kakao Brain is working hard at bringing technological advancements to consumer selfie drones as well as heavy-duty ones for agricultural, industrial applications.

Core qualities we look for in a successful candidate are:

- 1) **Great understanding of relevant concepts & knowledge in the fields of aerial drone / mobile-robot perception / machine learning.** Advanced understanding and knowledge, as well as extensive hand-on experience on computer vision and machine learning is a must.
- 2) **Demonstrable record of software development experiences and skills.** Applicants are more than welcome to emphasize his or her software development experience by sharing their personal Github repo, or any other means (if preferred).
- 3) **Solid communication skills and willingness to work as a team.** We believe it is crucial for every engineer to be able to effectively and efficiently communicate in both verbal and written form to present their designs, products, modules to others, just as much as being able to write good code, because in the end it is always about team effort. Also, documentation!

Current Job Openings:

- Perception/computer vision scientists/engineers
- Aerial flight control engineer
- Artificial intelligence scientists

Perception/Computer Vision Engineers

Job Description:

- Provide software design and programming support to research projects
- Design, develop, implement, evaluate, integrate of object detection, obstacle avoidance, sensor fusion, state estimation, etc on aerial platform
- Use various measurements from different sensing modalities, including mono- or stereo-camera image, LIDAR, radar, IMU, etc on aerial platform
- Develop inertial-visual pose estimation for drones

Basic Qualifications:

- Masters or Doctorate Degree in EE, CS, Robotics or related area with minimum 1 year of experience of software development
- Bachelor Degree in EE, CS, Robotics or related area with minimum 3 years of experience of software development
- Passionate about **drone** and autonomous **drone** flight
- Strong interest in solving hard and challenging drone perception problems
- Demonstrable proficiency in Python, C++
- Good working knowledge in prototyping using any programming languages
- Solid understanding of computer vision in object detection, tracking, SLAM, structure from motion
- Architect and implement software libraries and algorithms

Preferred Qualifications:

- Experience with integrating, testing and deploying any robotic systems
- Experience with hardware devices interfacing, embedded system
- Experience with GPGPU, CUDA, CUDNN, OpenCL or SIMD
- Experience developing device drivers for on-board-sensors
- Experience with Agile software development is a plus
- Experience with contributing to open source projects is a plus
- Familiar with typical programming development toolchain: OpenCV, Git, ROS
- Broad understanding of machine learning algorithms
- Good working knowledge of TensorFlow or similar frameworks
- Strong oral and written skills in English

Aerial Flight Control Engineers

Job Description:

- Design, simulate, and test new control algorithms for a drone
- Understand given flight mission and design and test path-planning algorithms with on-board sensors and mcu
- Utilize state-of-the-art SLAM and stochastic control algorithms to fly a drone

- Perform detailed analysis of control system performance under a variety of operating conditions, turbulence models, and aerodynamic models.

Basic Qualifications:

- Masters or Doctorate Degree in EE, CS, Robotics or related area with minimum 1 year of experience of software development
- Bachelor Degree in EE, CS, Robotics or related area with minimum 3 years of experience of software development
- Passionate about **drone** and autonomous **drone** flight
- Strong interest in solving hard and challenging drone perception problems
- Demonstrable proficiency in Python, C++
- Good working knowledge in prototyping using any programming languages

Preferred Qualifications:

- Experience with integrating, testing and deploying any robotic systems
- Experience with hardware devices interfacing, embedded system
- Experience in Python and C/C++; experience translating control algorithms into code
- Experience with a variety of control techniques, e.g. classical SISO methods, adaptive control, optimal control, Kalman filtering, and discrete-time signal processing
- Experience with Agile software development is a plus
- Experience with contributing to open source projects is a plus
- Strong oral and written skills in English

Artificial Intelligence Scientists

Job Description:

- Design, implement and evaluate deep learning models
- Publish and deliver research findings and developments
- Represent deep learning research goals in computer vision such as object detection depth-estimation, etc or robotics including SLAM, SfM, aerial flight control, etc
- Design, simulate, and test autonomous aerial flight using artificial intelligence

Basic Qualifications:

- Masters or Doctorate Degree in EE, CS, Machine Learning, Robotics or related area
- Demonstrable proficiency in Python or any programming language
- Good working knowledge of TensorFlow or similar frameworks
- Relevant experience in deep learning
- Relevant publications or open source contributions
- Familiar with standard artificial intelligence and machine learning techniques, scientific thinking, and the ability to invent

Preferred Qualifications:

- Publications in the top academic conferences such as NIPS, CVPR, AAAI, ICML, ICLR, ICRA, etc
- Award winner in data science challenges of ILSVRC, WMT, Kaggle, etc
- Ability to independently define and solve visual machine learning problems, e.g. CNN-SLAM
- Experience with Agile software development is a plus
- Strong oral and written skills in English

For questions or submissions, please find us at apply@kakaobrain.com by stating the position of your interest, attach your resume, along with your self-introduction or any other supplementary material.