

Senior Robotics Engineer

OPPORTUNITY

Ainira Industries is currently seeking applicants for Senior Robotics Engineer for its strategic thrusts – AI Chips and Intelligent Vehicles. We are looking for smart, enthusiastic people who want to join our growing team as we push the boundaries applying AI in support of human creativity. In this role, the successful candidate will contribute to our ground-breaking robotics flagship projects in Imaging and Sensing.

JOB DESCRIPTION

Reporting to the Director of AI Engineering, the Senior Robotics Engineer you will work on challenging problems and develop state-of-the-art research, applying cutting edge techniques, such as 3D perception, SLAM, visual odometry, machine learning for perception, safe CV, robust outdoor sensing, to real-world robotic systems that perform useful work. You will design system-wide perspective for multiple simultaneous projects from design concept through to production while maintaining focus on cost and safety.

This is a hands-on role requiring adaptive thinking, initiative, and collaboration within a passionate problem-solvers team. Current projects leverage semantic segmentation, SLAM on embedded processors, physics-based vision simulation, and multi-camera (and multi-modal) vision for detection, tracking, and navigation.

RESPONSIBILITIES

- Designing, developing, documenting, testing, troubleshooting, and maintaining software applications and integrated systems, and transitioning applications to launch with production quality CPU/GPU/FPGA code
- Design, prototype, and develop sensing and robotic solutions to meet technology and product objectives
- Setup of robot systems, and implementation of proof of concept demonstrators on novel hardware
- Develop planning algorithms for creating manipulator toolpaths and mobile base navigation; work closely with the perception team, supporting SLAM, feature identification, and toolpath generation
- Lead software and processing algorithm and sensing techniques development, and develop computer vision algorithms for real world applications, prototyping in scripting languages
- Undertake investigations involving new robotic and sensing technologies, and implement state-of-the-art techniques to take on challenging problems alongside the Company's engineering pool of talent
- Guiding the development of the core behaviours for automating the building process, and carrying them from concept to deployment; reporting complex technical detail to specialists within the Company
- Assist execute research programs in robotics especially control, reinforcement learning, computer vision, manipulation on novel hardware; enable autonomous data capture by building and testing prototypes
- Planning and managing the work of other engineers to meet project goals while being responsible for best practices (peer reviews of designs and code, unit and system testing, version control, bug tracking)
- Provide technical leadership and resources with engineering and manufacturing expertise to peers in order to coach and uplift the capabilities (development, operations) of each product engineering team

- Review and evaluate product quality, cost effectiveness, and liaise with suppliers to ensure engineering product design, redesign, and customisation specifications are built to the highest standards
- Stay in touch with the relevant state-of-the-art and commercial markets, make recommendations on future development initiatives and roadmap direction, and help drive continuous improvement
- Attending meetings: design review, cost analysis, quality assurance and control, product validation, usability testing, supply chain, product packaging, and pre-production and manufacturing liaison

SKILLS and ABILITIES

- MSc Computer Science, Mathematics, or Robotics/Electrical/Mechatronics Engineering; PhD desirable
- 8+ years of relevant track record of development and implementing software in C++ and Python in a Linux environment; experience with embedded and sensor calibration software development is a plus
- Knowledge of CUDA programming; familiarity with ROS and Gazebo is seen highly favourably
- Expertise with distributed systems and real time application development; Intel's IPP or SIMD (Neon, SSE) instruction development; libraries such as OpenCV, PCL, ROS, Boost, Eigen
- Experience with mechanical design, control of articulated robots, simulation, optimal control, computer vision, machine learning, including reinforcement learning, and/or event-based cameras is a plus
- In-depth knowledge of and hands-on experience with planning and perception algorithms, and sensing technologies including visual and laser; knowledge/experience with sonar and controls is desirable
- Strong background in 3D and projective geometry, linear algebra, deep learning/machine learning for computer vision, and practical applications of traditional computer vision and image processing
- Desired product or field deployment experience in a commercial or military setting for robot navigation, development of sensors drivers, object tracking, and visual/inertial odometry, mapping, and/or SLAM
- Comfortable driving multiple initiatives at a rapid pace, making thoughtful recommendations with available data for the successful commercial launch of new products
- Good administration, document control, and tracking skills, with demonstrated high degree of initiative, creative problem solving, and attention to detail
- Able to engage effectively with others on the senior management team in sales, product, manufacturing, finance, and legal, as well as to presenting effectively at Executive Management and Board level

COMPENSATION

The Company offers a competitive compensation and benefits package, including Company stock.

APPLY

Click "Apply" below or use form in the Contact section – quote the reference number HR-ENG-0037. Only the shortlisted candidates will be contacted. Thank you for your interest.

Recruitment agencies, please note that no agency candidates will be accepted.