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Building R13
UNSW Randwick Campus
22 King St
Randwick NSW 2031

All correspondence to:
PO Box 4304
Castlecrag 2068
NSW Australia

AUTONOMY SOFTWARE ENGINEER

POSITION: Autonomy Software Engineer
FUNCTION TEAM: Engineering
LOCATION: Randwick, NSW.

The Company

Ocius Technology is an Australian company that builds autonomous Uncrewed Surface Vessels (USVs). These USVs use the energy of the weather - sun, wind, and waves, to act as persistent monitoring and communications platforms. We are embarking on an ambitious program of building and deploying multiple USVs for operations around Australia and beyond.

The Function

The team is responsible for collaborating to **design, build, and maintain software applications**. These team members work in unison, bringing together diverse talents and expertise to achieve a common goal: the development of high-quality software for the delivery of world class autonomous vessels.

The Role

As a result of growth, we have an opportunity for an autonomy software engineer to develop the autonomous capabilities of our USV platforms. This includes behaviours such as sailing, collision avoidance, teaming, surveillance, mapping, emergency response and fault tolerance. These will be used for real-world tasks.

Key Responsibilities

Software Design and Development

- Develop a deep understanding of core robotics and autonomy principles.
- Staying abreast of contemporary concepts within the software development industry
- Engaging in product development and brainstorming with team members
- Software design, development, integration, and validation for autonomous vehicle control, device management, navigation, communications, and related applications.
- Ensure software is scalable and maintainable to support the next generation of autonomous systems.
- Conducting system analysis and recommending changes in technical processes to improve software operations.

Collaborating with teams to deliver sophisticated engineering outcomes

- On occasion, participate in remote watchkeeping of the USVs when at sea

Leadership

- As a senior member of the team, create a culture of safety, customer centred so that Ocius delivers on the mission
- Contribute to the establishment and growth of the software team. Provide mentorship and coaching to software engineers to ensure they understand the organisational processes and technologies.

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Demonstrated Skills, Experience, and Qualifications

Advanced Technical Proficiency

- A strong understanding of autonomy algorithms and software architecture principles is crucial for designing scalable and efficient solutions.
- Strong software engineering fundamentals and a commitment to writing clean, well-designed, maintainable, readable code.
- High level of proficiency in C++ and Python.
- Demonstrated ability to develop on Linux and embedded systems.
- Willing to learn diverse technologies and codebases on the job (Ardupilot, ROS-2, IvP Helm, AWS, CAN etc)
- Experience working with autonomous vehicles and real-time systems.
- Bachelor's or higher degree in computer science or engineering

Problem Solving, Critical Thinking and Evaluation

- Ability to communicate effectively with team members, stakeholders, and clients.
- Ability to convey complex technical concepts in a clear and concise manner, facilitate productive discussions, and resolve conflicts.
- Working in a degree of independence while managing diverse problems that require critical thinking and problem solving before making decisions.
- Evaluate the outcomes and impacts of solutions and record lessons learned.

Research, Innovation, and Continuous Improvement

- Evaluate and own the impacts of the design and take ownership for improvements.
- In adherence to legal and ethical considerations, make decisions in collaboration with stakeholders and team members.

Essential Requirements

- Australian Citizen.
- Ability to obtain and maintain a minimum of Defence Security Clearance–NV1.