

If you wish to apply, please prepare your resume (specify the job title you are applying for) and send to meichen@itri.org.tw

Job Title	Job Description	Job Requirements
Drone AI System Engineer(U302) 資通所_無人機AI軟體工程師(U302)	1. Keep track of the latest development trends in Large Language Models (LLM), Vision-Language Models (VLM), and Computer Vision (CV), and study their implementation methods in drone specific tasks or application domains. 2. Utilize diverse data types (such as images, videos, text, structured data, signals, etc.) to carry out the following work: 2.1 AI Algorithm Development: Including technologies such as classification, object detection and segmentation, 3D modeling, image registration and fusion, image understanding. 2.2 AI Application System Development: Covering the design and implementation of application workflows such as data preparation, data fusion, and image processing.	1. Master's degree or above in Computer Science, Computer Engineering, Information Management, or other related fields. 2. Professional knowledge (possessing one or more of the following is preferred): - AI Analysis Techniques: Knowledge of Data Mining, Machine Learning, Deep Learning, Reinforcement Learning, Transformer, Attention, Generative AI, VLM, LLM, etc. - Computer Vision: Familiarity with computer vision and digital image processing/analysis techniques. - Data Analysis: Experience with time-series data or sequential data analysis. 3. Programming and technical skills (possessing one or more of the following is preferred): - Programming Languages: Proficiency in Python, C/C++, or other software development.
Intelligent Vehicle Software & Firmware Integration Engineer (U303) 資通所_智慧載具嵌入式系統工程師(U303)	1. Develop and integrate software and firmware for unmanned vehicles such as UAVs and USVs. 2. Design and implement embedded firmware for sensor data acquisition, communication interfaces, and control logic. 3. Develop multi-sensor fusion algorithms (IMU, GPS, LiDAR, Camera) to enhance localization and navigation accuracy. 4. Collaborate with the autonomy and control algorithm teams for module integration and performance tuning. 5. Build system testing scripts and debugging tools; conduct software validation and field testing. 6. Prepare and maintain technical documentation to ensure reliability and scalability of the system. 7. Requirements communication: Communicate requirements with cross-departmental teams and report issues to the R&D department.	1. Master's degree or above in Computer Science, Control Engineering, Electrical Engineering, Mechanical Engineering, Aerospace Engineering, or a related field. 2. The following professional knowledge and skills are highly desirable: - Proficiency in embedded system development (ARM Cortex, STM32, ESP32, or similar platforms). - Experience with RTOS, FreeRTOS, or Embedded Linux. - Familiarity with autonomous driving platforms such as ROS, PX4, or Ardupilot. - Experience in firmware development using C/C++, Python. - Experience in developing UAVs, USVs, or autonomous systems is a plus. - Knowledge of sensor data processing, control theory, or communication protocol development. - Proficiency in flight control software development, testing, parameter tuning, and mission planning using PX4 or Ardupilot. - Familiarity with the "PixHawk open-source UAV flight control computer." - Experience in UAV software development, including ground control systems, MAVLink protocol, visual positioning technologies (such as VIO or VSLAM), and swarm communication and control algorithms. 3. Experience with or certification for multi-rotor UAV flight is preferred. 4. Familiarity with UAV mechanical design is a plus.

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Network AI and Automation system Engineer(K201) 資通所_5G/6G組網軟體工程師(K201)	Participate in the full lifecycle of AI-driven and automated network system software development. Responsibilities include training and validating Network Digital Twin (NDT) AI models, developing machine learning and deep learning algorithms, and designing AI-based solutions for network optimization and management. The role also involves building network management system platforms, as well as developing web-based front-end and back-end applications for network management and optimization. In addition, this position focuses on designing visualization interfaces to support network monitoring, analysis, and decision-making. The developed systems aim to enable intelligent, automated, and data-driven network operations through AI technologies.	1.Master's degree or above in Telecommunications, Communications Engineering, Electrical Engineering, Computer Science, or a related field. 2.Proficiency in one or more programming languages, including Python, Go, C, C++, or JavaScript. 3.Strong teamwork skills, with the ability to collaborate across disciplines and independently solve problems. 【Preferred Expertise and Skills】1.Solid knowledge of communication theory, with hands-on experience in communication system development, integration, and verification. 2.Experience in AI/ML system development, integration, and verification, with strong familiarity with Python and AI frameworks such as PyTorch or TensorFlow. 3. Experience in studying and working with communication standards and technical specifications, such as 3GPP and O-RAN. 【Bonus Qualifications】1.Experience in Web Service API development. 2.Experience in radar sensing, Wi-Fi sensing, or UWB positioning system development. 3.Experience in UAV (drone) positioning and tracking applications. 4.Experience in Software Define Radio, USRP, OAI, GNU Radio development.
UAV Swarm Networking Software Engineer(K202) 資通所_無人機蜂群組網軟體工程師(K202)	Participate in the system and software R&D related to UAV swarm networking, including: 1.Development of UAV swarm flight mission and performance simulations. 2.Development of recommendations for UAV swarm mission specifications. 3.Front-end and back-end software development for UAV swarm systems. 4.Development of communication modules for UAV swarms. 5.Analysis and development of standards related to UAV swarms.	1.Master’s degree or above in Electrical Engineering, Communications Engineering, Computer Science, or a related field. 2.Possess professional knowledge in at least one of the following areas (multiple areas preferred): 5G mobile networks, Wi-Fi communications, Ad Hoc mesh networks, UAV flight control, or UAV simulation. 3.Familiar with Linux, Git, and SQL database operations. 4.Proficient in at least one of the following programming languages or technologies (multiple skills preferred): C, C++, Java, Python, and Angular. 5.Experience with UAV systems or integrated FPGA development is a plus.
5G/6G Software Engineer(K302) 資通所_5G/6G軟體工程師(K302)	Participated in the development of 5G/6G Integrated Sensing and Communication (ISAC) technologies, with responsibilities including: 1. Design and development of ISAC algorithms. 2. System integration and testing of ISAC platforms. 3. Development of ISAC application systems.	1. Master's degree or above in Telecommunications, Communications Engineering, Electrical Engineering, Computer Science, or a related field. 2. Proficiency in one or more programming languages, including Python, Go, C, C++, or JavaScript. 3. Strong teamwork skills, with the ability to collaborate across disciplines and independently solve problems. 【Preferred Expertise and Skills】1.Solid knowledge of communication theory, with hands-on experience in communication system development, integration, and verification. 2.Experience in AI/ML system development, integration, and verification, with strong familiarity with Python and AI frameworks such as PyTorch or TensorFlow. 3.Experience in studying and working with communication standards and technical specifications, such as 3GPP and O-RAN. 【Bonus Qualifications】1.Experience in Web Service API development. 2. In radar sensing, Wi-Fi sensing, or UWB positioning system development. 3. In UAV (drone) positioning and tracking applications. 4.Experience in Software Define Radio, USRP, OAI, GNU Radio development.

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AI Humanoid Robotics R&D Engineer(U102) (Hsinchu/Tainan) 資通所_AI人型機器人工程師U102) (新竹竹東/台南六甲)	Developing vision-based AI technologies for intelligent humanoid robots, including VLM, purely vision-driven 3D environmental perception, real-time visual tracking and terrain analysis, whole body control, as well as multi-robot collaboration tech.. The role also involves integrating simulation and real-world deployment through Omniverse to validate system performance, with the goal of building highly autonomous intelligent mobile systems with advanced environmental understanding. Including: 1. Core Model R&D: 1.VLA Model Devel.: Design and develop Vision-Language-Action (VLA) model architectures for multimodal scene understanding and decision-making in robotic manipulation. 2.Advanced Algorithms: Research and implement Imitation Learning (IL) and Reinforcement Learning (RL) algorithms to enhance generalization capabilities for complex robotic tasks. 2. Simulation & Data Engineering: 1.Sim2Real Transfer: Build high-fidelity virtual simulation environments and perform physical parameter tuning and validation to minimize the simulation-to-reality gap during deployment. 2.Data Pipeline: Design automated trajectory data collection pipelines to construct high-quality multimodal datasets for training behavior generation models. 3. System Integration & Edge Deployment: 1.Control Architecture: Design the robotic control system architecture by integrating deep learning models with traditional control strategies. 2.Edge Optimization: Lead model compression and inference optimization efforts to successfully deploy control policies onto edge computing devices, ensuring real-time performance and system stability. 《 Position Highlights / Advantages 》 1.Cross-disciplinary AI & Robotics R&D: Engage in the devel. of core intelligent robotics capabilities, spanning VLAs, VLMs, Large Behavior Models (LBMs), 3D perception, and whole body control technologies. 2.Sim-to-Real Integrated Devel. Environment: Utilize Omniverse for high-fidelity simulation to accelerate model validation and enable seamless integration with real humanoid robots. 3.Diverse and Impactful Application Scenarios: Tech developed can be applied to food and beverage service, surveillance and patrol, search and rescue, and cooperative multi-robot missions, offering both high technical challenge and real-world impact.	1. Master’s or Ph.D. students currently enrolled in Computer Science, Electrical Engineering, or related fields, with strong teamwork skills and the ability to work independently. 2. Proficient in deep learning frameworks such as TensorFlow and PyTorch, with hands-on experience in model development and training using Omniverse Isaac Sim and Isaac Lab. 3. Demonstrated excellence in academic paper writing, technical documentation, and technical presentation/reporting. 4. Familiar with at least one or more model architectures, including RNN, LSTM, GRU, Transformer, PPO, SmolVLA, and Gr00t. Experience in model optimization and model miniaturization is a plus, including but not limited to model compression, quantization, pruning, and knowledge distillation. 5. Experience in AI embedded platform development, including but not limited to Jetson Nano, Jetson Orin NX, and Jetson AGX Orin. 《 Preferred Qualifications 》 1.Experience in developing generative AI models, such as VLAs, VLMs, LBMs, and LLMs. 2.Hands-on experience with robot motion planning or reinforcement learning (RL). 3.Practical experience with reinforcement learning techniques such as Deep Q-Learning, PPO, and Policy Gradient methods, applied to robotic control systems.