NCCU X PEGATRON Internship Program

Software Div.1

Core Technology R&D Center

PEGATRON

2023 Revenue : $40.44 Billion USD

Executives

Chairman
TH Tung

Vice Chairman
Jason Cheng

Co-CEO
Gary Cheng

Co-CEO
Jonson Tseng

Co-CTO
James Shue

Co-CTO
PC Wang

AI Development Division

AI Div. Head
Andrew Hsiao

Application
Willy Huang
20+ Years Experience

Platform
Jason Yang
20+ Years Experience

PEGAAi
Alan Chang
20+ Years Experience

PEGAVERSE
Le Chen
20+ Years Experience

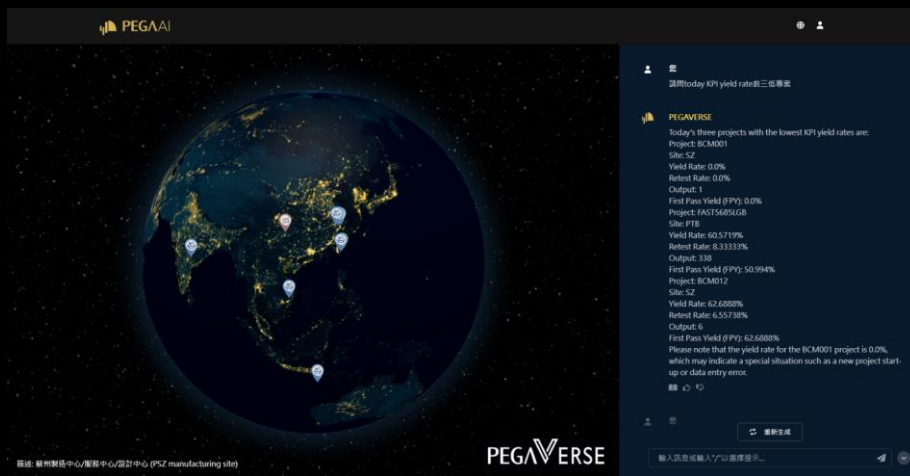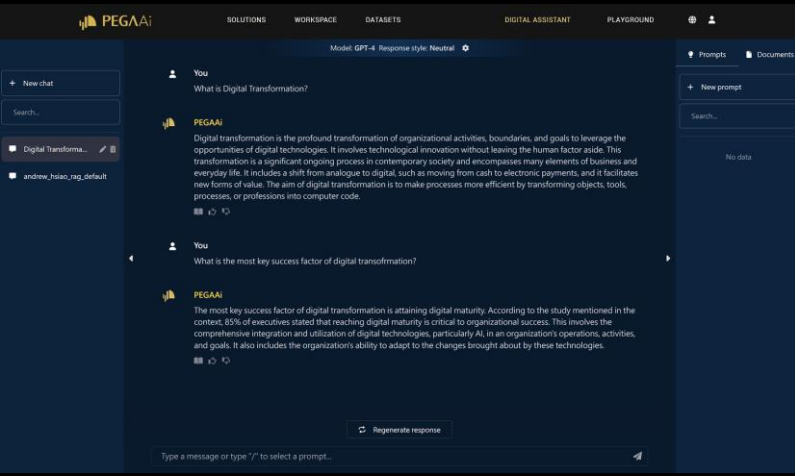**AI Model**
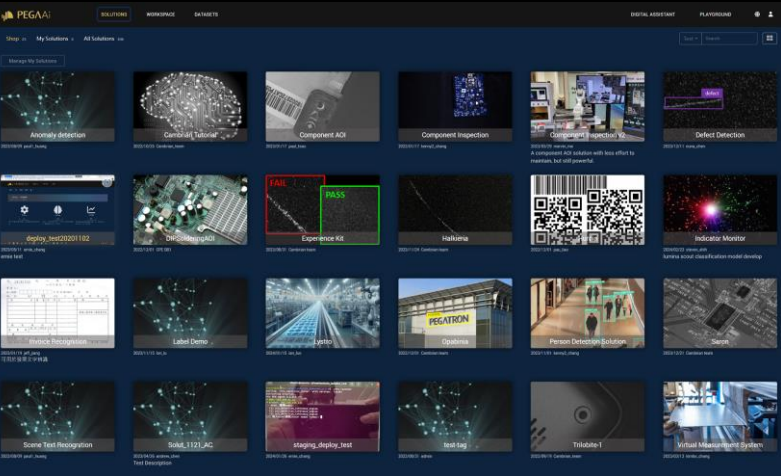Tommy Chu
20+ Years Experience
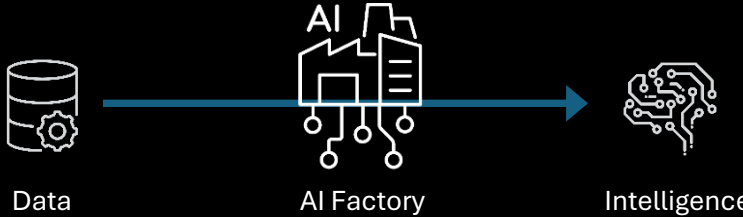
Customer Success
ChiaMing Liang
20+ Years Experience

Marketing & Sales
Andy Tsai
20+ Years Experience

PEGAVERSE

PEGAAi & PEGAVERSE

PEGAAi — NVIDIA AIE

PEGAVERSE — NVIDIA Omniverse

AI Factory

AI Agents

Digital Twins

Data → AI Factory → Intelligence

AI Agents: Learning, Perception, Cognition, Action, Memory, Reasoning, Planning

AI Agent → Action → Virtual World
Virtual World → Percept → AI Agent
Sim2 Real
Robot → Action → Real World
Real World → Percept → Robot
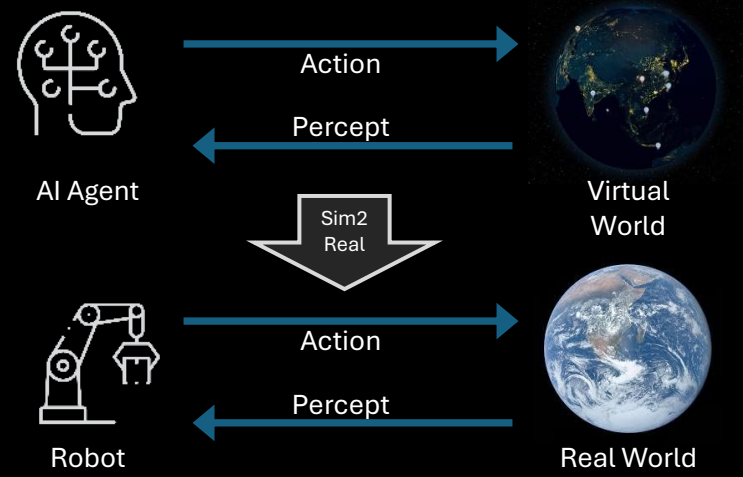
Multimodal Autonomous AI Agent for Industries
智慧製造中的多模態自主代理人

近年來，製造業面臨市場環境的快速變化，其中包括全球競爭加劇、客戶需求多元化以及技術創新等挑戰。在這樣的背景下，數位轉型成為製造業提升競爭力的不可或缺的關鍵。本提案旨在引入大型基礎模型和自建AI平台，並開發一套專為製造業設計的虛實整合多模態自主代理人系統。這套代理人系統不僅精通製造流程，更能根據特定指令執行特定任務。透過這樣的系統，我們期望能夠有效優化生產流程，提高整體效能，因應市場變化的挑戰。

即時資訊處理	設備知識管理	多模態模型
開發AI Agent來優化製造品質和生產調度。 收集並分析生產數據、設備數據並提供成果。 整合AI Agent到現有製造系統中，進行測試和調整。	使用AI分析設備運行數據，預測可能的故障和維修需求。 使用LLM整合系統與相關設備文件，產生相關知識並應用，並提供維修建議 訓練生成式AI模型來預測設備維修需求，並提供維修建議。 將AI Agent用於設備維修保養系統中，並根據實際運行效果進行優化。	確定VLM在設備相關維運SOP生產中的應用場景。 優化VLM model, 並確認效能。 整合AI Agent模型到製造系統中，進行測試和調整。

Internship Program

Industry-Academia Collaboration

Industrial Specialization Program

Full-Time Positions

Job Title	System Integration Engineer	DevOps Engineer	AI Application Engineer	AI Engineer	AI Researcher
Job Summary	* Understanding business objectives of customers and eliciting requirements * Evaluating system architecture to solve real world problem / need from customers * Designing and developing robust, efficient, scalable AI products, including application, models and Pegatron AI platform services * Validating product functionalities and performance and driving continual improvements * Deploying products into production at scale * Maintaining, trouble-shooting, upgrading deployed systems in the field	* Based on PaaS & IaaS concepts to design, implement, and operate container-based microservices of AI platforms to make them robust and high-performance. * Manage the service availability and scalability through better monitoring, CI/CD processes, and infrastructure. * Use AIOps to operate and diagnose service problems automatically for IaaS/PaaS/SaaS services in global wide * Provide DevOps services such as CI/CD pipeline	* Design and develop AI applications to meet business needs. * Collaborate with cross-functional teams to understand and translate business requirements into technical solutions. * Implement and optimize AI and machine learning models to enhance application performance and accuracy. * Conduct data analysis to extract valuable insights for decision-making. * Track product performance in the field and drive continual performance improvements. * Continuously monitor and research the latest AI technologies and trends, applying them to real-world projects.	* Develop, implement, and maintain development standards and patterns to improve team efficiency and productivity * Design and implement template models for various AI applications * Create and maintain high-quality base models for CV and LLM * Collaborate with cross-functional teams to integrate AI solutions and develop best practices * Stay up-to-date with industry trends and advancements in AI engineering	* Conduct research on AI technologies and applications, including but not limited to computer vision, natural language processing, reinforcement learning, and machine learning. * Implements and evaluates SOTA AI models and algorithms to solve complex problems and improve efficiency and accuracy of AI applications, specially in the field of industrial manufacturing and assembly. * Collaborate with cross-functional teams or external partners to develop and integrate AI solutions into existing systems and workflows. * Transfer technology and technical consultant to product team * Stay up-to-date with the latest research and industry trends in AI and machine learning. * Publish original research and present in public events or conferences.
Required Qualifications	Programming experience with C/C++、python Strong coding ability – you must be able to write clean、modular、efficient code and validate it Deep learning development experience in computer vision (classification、object detection、landmark detection、segmentation) or related area Developing experience on Linux	* Master's degree in Computer Science, Electrical Engineering, Information Management or a related technical field, or equivalent practical experience. * Ability for developing services with python, golang or shell scripts * Basic knowledge with Linux OS & computer networking * Experience with docker, Kubernetes or Openstack	* Master's degree in Computer Science, Engineering, or a related field. * Strong communication and teamwork skills. * Strong understanding of AI concepts, such as machine learning, deep learning, and neural networks. * Excellent problem-solving skills and attention to detail. * Proficiency in Python programming language (R / C++ is a plus). * Experience with machine learning frameworks and libraries (e.g., TensorFlow, PyTorch, scikit-learn).	* Master's degree in Computer Science, Electrical Engineering, Artificial Intelligence, or a related field * Proven experience in model training, deployment, and maintenance * Strong understanding of AI concepts, including machine learning, deep learning, and neural networks * Excellent problem-solving skills and attention to detail * Strong communication and collaboration skills	* Excellent knowledge of theory and practice of deeep learning and machine learning algorithms. * Excellent communication and presentation skills.
Preferred Qualifications	* Familiar with git、docker、K8S * Familiar with design patterns, refactoring, test driven development and CI/CD flow * Experience in agile methodologies * Willing to work with customers and help them succeed * Initiative and willing to learn continuously	* Excellent communication skills. * Additional proficiency in using public cloud is a plus	* Knowledge of computer vision, generative AI model techniques. * Solid understanding of data structures, algorithms, and software design principles. * Experience with MLOps practices, including model deployment, monitoring, and CI/CD for machine learning models. * Experience with cloud platforms (e.g., AWS, Google Cloud, Azure) is a plus. * Familiarity with big data technologies (e.g., Hadoop, Spark) is a plus. * Familiarity with Agile development methodologies (e.g., Scrum) and version control systems (e.g., Git)	* Experience with Slurm or other job scheduling systems * Proficiency in Docker or other containerization tools * Familiarity with Python design patterns and coding styles * Familiarity with Agile development methodologies and version control systems (e.g., Git) * Experience with cloud-based AI platforms (e.g., AWS SageMaker, Google Cloud AI Platform) * Knowledge of data preprocessing, feature engineering, and data visualization techniques * Familiarity with model interpretability and explainability techniques	* Internship or research experience in deep learning and machine learning. * Published original research in AI conferences and journals. * Cross-domain research experience in deep learning and machine learning. * Familiar with generative AI and foundation model. * Experienced in large-scale data processing, analysis and training of deep learning models. * Experienced in parallel programming and training of deep learning models. * Familiar with cloud computing platforms such as AWS, GCP, Azure is a plus. * Familiar with containerization technologies such as Docker, Kubernetes is a plus. * Familiar with distributed training and parallel programming frameworks such
Educational Background	* Bachelor's or Master's degree in Computer Science, Electrical Engineering, Artificial Intelligence, or a related field * Relevant coursework in AI, machine learning, deep learning, and data structures				
Language Skills	* English: good at listening, speaking, reading and writing * Other languages (plus)				