

CityU Summer Research Internship Programme 2020 - Project List

Department	Project Title	No. of Vacancy
Architecture and Civil Engineering	How does Design Research fit into CityU's Discovery Enriched Curriculum?	1
	Evaluating value-based approaches for researching urban public space management	1
	Urban design and social cohesion in HK public housing	1
	Influence of tourism on Hong Kong public spaces	2
Biomedical Engineering	Vision and communication for swarm of small robotic fish	2
	Design of complaint wheel/leg for small mobile robots	1
	Microrobots for Biomedical Applications	2
	High-resolution functional brain imaging using light and ultrasound	2
	Stretchable piezoelectrics based epidermal sensors for electronic skin	1
	Wireless battery-free flexible activity monitors	1
	Microfluidic System for the Real-time Detection of Rare Cells for Disease Identification	2
	Imaging glucose utilization in the brain using magnetic resonance imaging (MRI)	2
Biomedical Sciences	Autoantibodies in autoimmune disease	1
	Synthesis, photophysical properties, and biological evaluation of phthalocyanine-based photosensitizers for photodynamic therapy	1
	Inhibition of cancer cell growth by novel Hsp inhibitors	1
	Molecular epidemiology and bioinformatics study on metabolic diseases	1
	Optogenetic manipulation of epileptic seizure induction	1
	Optogenetic manipulation of olfactory learning in mice	1
Chemistry	Trace analysis of contaminants in the marine environment	1
	Discovering new antibiotics from fish blood	1
	What if you transplant mitochondria from cancer cells into non-cancer cells?	1
	Using computer to study mechanism of organic reactions	1
	Using computer to study reaction mechanism involving transition-metal complexes	1
	Exploitation of luminescent transition metal complexes as bioimaging reagents and photocytotoxic agents	2
	Theoretical Prediction of Binding Affinities of Organic Compounds on Aqueous Nanodroplets	1
	Theoretical Prediction of Binding Modes of Chiral Molecules on Metal Ions	1
	Environmental-friendly highly efficient next-generation photovoltaic	1
	Design High-efficiency bifunctional electrocatalyst for water splitting and fuel Cell	1
Computer Science	Introduction Study in Metagenomics	1
	Introduction Study in DNA Sequence Analysis	1
	Introduction Study in Cancer Prediction	1
	Introduction Study in Cheminformatics	1
	Data Science and Its Applications	1
	Artificial Intelligence (AI) Technologies in Classroom	2
	Artificial Intelligence (AI) Games	2
	Scientific Investigation of Juggling and Artificial Intelligence (AI) Robots	2
Electrical Engineering	Moving object detection in video with deep learning	1
	Facial expression recognition	1
	Application of Machine Learning to Predict Binding Strength Between Receptor Protein on Cell Membrane and Chemical Compound	1
	Study of Knee Adduction Moment During Gait Retraining Using Wearable Sensor	1
	Lifelong Robotic Vision	2
	Initialization Effects on Swarm-based Optimization Algorithm	2
	Chaotics Sequence for Swarm-based Optimization Algorith	2
	Chaotics Initialization for Swarm-based Optimization Algorith	2
	Ecology of Agent-based Optimization Algorithm	2
	Elitist Breeding for Swarm-based Optimzation Algorith,	2
	Permutation Operators for Elitist Breeding of Swarm-based Optimization Algorithm	2
	Literature Suvey on Solving Constrained Optimization Problem with PSO/QPSO	2
	Training Effect on Multi-layer Extreme Learning Machine	2
Mathematics	Image processing for medical images	2
	Framelets on Manifolds and Graphs with Applications	1
	A class of easy-to-implement mixed methods for the elliptic fourth order problems	1-3
	Tensor regression for crowd density estimation	1
Materials Science and Engineering	Synthesis and structural characterization of layered perovskite ferroelectrics	1
Mechanical Engineering	Thermal transportation of PDMS based composites	1-2
	Mechanical behavior of hybrid structures fabricated via 3D printing	1-2
	Bio-inspired 3D printing of mechanical metamaterials	2
Physics	Highly mismatched oxide semiconductors and/or transparent conductors for flexible solar cells	1-2
System Engineering and Engineering Management	Study of statistical control chart for the monitoring of time-between-events	1
	Visual analysis of air traffic in the age of Big Data	1
	Data analytics for Urban Air Delivery Services	1