

Hong Kong Observatory Summer Placement Programme 2026

Division	Project Title	Job Description	Subject and Year of Study Required	Specific Knowledge/ Skills Required/ Remarks	Project Supervisor
A1	Engaging AI in Aviation Meteorological Information Dissemination System (AMIDS) for Enhanced User Experience	Engage in a project dedicated to the renovation of aviation meteorological information dissemination system (AMIDS), a specialized aviation information portal for select users. The role will involve engaging AI workflows for rendering weather information display on AMIDS, and explore the integration of AI technologies to enrich the platform and user experience.	Computer Science, Information Technology, or related disciplines. Completion of 1 st year of study.	Experience in AI, web design and development. Knowledge in user experience (UX) principles and proficiency in utilizing modern frameworks (e.g., React or Vue.js) preferred.	SO(A)11
A3/A7	Developing weather support solutions for drone flight safety in the Low-Altitude Economy (LAE)	Weather plays a critical role in drone flight safety within LAE. In this project, the candidate will assist in the development of weather support solutions tailored for LAE operators.	Computer Science, Computer Engineering, Mathematics, Physics, Geoinformatics, Meteorology, or related disciplines. Completion of 2 nd year of study.	Experience in programming languages (e.g. Python, web programming, MySQL) and application platforms (e.g. VM or Docker). Knowledge in AI application and/or Machine Learning framework is an advantage. Knowledge in Statistics and Data Analytics is desirable. Team-oriented mindset.	SO(A)73

A5a	AI Applications for Automatic Detection of Convective Wind Shear and Microbursts at Hong Kong International Airport	Conduct a feasibility study on the application of Artificial Intelligence (AI) to automatically detect wind shear and microbursts associated with convective weather events. The project involves analyzing data from the Terminal Doppler Weather Radar (TDWR) to monitor conditions in the vicinity of the Hong Kong International Airport.	Physics, Earth System Science, Mathematics, Computer Science, or related disciplines. Completion of 2 nd year of study.	Genuine interest in aviation and meteorology.	SO(A)51
A5b	Study on Tolo Harbour tidal characteristics via data mining and analytics	The project aims to study the tidal characteristics of Tolo Harbour via data analytics on various meteorological observations. The intern will gain hands-on experience on data analysis and perform meteorological research.	Physics, Earth System Science, Mathematics, Statistics, Computer Science, Engineering, or related disciplines. Completion of 2 nd year of study.	Genuine interest in meteorology. Knowledge and experience in Python programming language. Experience in data science and AI would be an advantage.	SEO(A)51

A6a	Evaluate the performances of forecast models for aviation hazardous weather	Models, including numerical weather prediction and machine learning models, have been useful for forecasting aviation hazardous weather, e.g. significant convection, airframe icing, turbulence. This project will evaluate products developed based on models for forecasting aviation hazardous weather. The verification results will be able to provide guidance for aviation forecasters.	Mathematics, Statistics, Physics, Earth System Science, Computer Science, or related disciplines. Completion of 2 nd year of study.	Genuine interest in meteorology. Experience in using Python/R programming language and statistical analysis would be an advantage.	SO(A)62
A6b	Develop seamless significant convection forecast using machine learning and artificial intelligence	Different nowcast and forecast methods have their own strengths and weaknesses. This project will evaluate the forecast performances of different methods and consolidate them into a seamless significant convection forecast for aviation using, but not limited to, machine learning and artificial intelligence.	Physics, Earth System Science, Mathematics, Data Science, Computer Science, Aviation Engineering, or related disciplines. Completion of 2 nd year of study.	Genuine interest in aviation and meteorology. Experience in using Python programming and performing statistical analysis would be an advantage.	SO(A)62 & SO(A)72

D2a	Study of tsunami impact on Hong Kong based on model simulations	Study of potential heights and arrival times of tsunamis triggered by potential tsunami sources in the South China Sea using tsunami model such as COMCOT. Development of handy tools based on model pre-runs for quick assessment of tsunami impact on the coastal areas of Hong Kong.	Physics, Earth and Environmental Sciences, Earth System Science, or related disciplines. Completion of 2 nd year of study.	Good knowledge in seismology and tsunami physics. Skills in the use of hydrodynamic models (e.g., COMCOT) and Geographic Information System (GIS) would be an advantage.	SSA(D)23
D2b	Design and revamp of webpages and e-book on earthquake and tsunami	Redesign and refine the presentation of information and education materials on the webpages and draft e-book on earthquake and tsunami for access on the Hong Kong Observatory's website and mobile application.	Creative Media, Digital Communication, Computer Science, or related disciplines. Completion of 1 st year of study.	Good knowledge in JavaScript, HTML5, CSS. Skills in graphic design and motion graphics software Adobe Illustrator or Photoshop or SketchUp and use of AI tools would be an advantage. Interest in infographic and responsive webpage design. Submission of a portfolio showing previous design work is preferred.	SA(D)22

D3	Develop innovative multimedia materials on climate change and extreme weather events for public education	By incorporating relevant meteorological data/information, create a set of innovative and high quality multimedia materials (e.g. infographics, charts, digital images, PPT slide decks, animations/videos, etc.) on climate change and extreme weather events in support of the public education and relevant webpages revamp.	Creative Media, Multimedia Technology, Digital Design, Animation, or related disciplines. Completion of 2 nd or 3 rd year of study.	Advanced proficiency in PowerPoint. Proficiency in design software (e.g. Adobe Illustrator) and/or animation software (e.g. Adobe After Effects). Knowledge of AI graphic design tools, digital editing software, and/or digital video production software is an advantage. Applicant must submit a portfolio of previous work. Please specify your contribution in each submitted project.	CEO(D)31
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<p>D4 (Two interns)</p>	<p>Produce educational and promotional videos for the Hong Kong Observatory (HKO)</p>	<p>Assist in the production of educational and/or promotional videos for HKO, including screenwriting, filming and post-production. The videos may be broadcast on local TV channels (as part of “Cool Met Stuff” series), and/or uploaded to HKO social media platforms including YouTube, Facebook and Instagram.</p>	<p>Film and Television, Creative Media, Multimedia Technology, Animation, or other related disciplines with an emphasis in digital video production.</p> <p>Completion of 2nd or 3rd year of study.</p>	<p>Strong knowledge in (A) digital video production and editing software (e.g. Adobe Premiere), OR (B) animation production and software (e.g. Adobe Illustrator, After Effects). Strong skills in both (A) and (B) above will be an advantage.</p> <p>Applicant must submit a portfolio of previous work. Please specify your role involved in each of the videos submitted.</p>	<p>SO(D)45</p>
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F12a	AI-Based Tropical Cyclone (TC) Track and Intensity Prediction Using Best-Track and Reanalysis Data	While recent global AI weather models have demonstrated improved skill in TC track prediction, they still tend to underestimate TC intensity. This project aims to develop an AI model specialised in TC track and intensity prediction, trained using historical best-track records (e.g. HKO best track and/or IBTrACS) together with reanalysis data (e.g. ERA5), to improve TC forecasts from the global AI weather models.	Computer Science and Engineering, Artificial Intelligence, Data Science, Statistics, Physics, Mathematics, Earth System Science, or related disciplines. Completion of 2 nd year of study.	Knowledge and experience in Python and ML frameworks required. Interest in meteorology, AI and ML is preferred.	SO(F)121
F12b	AI Emulation of High-Resolution Numerical Weather Prediction (NWP) Models	High-resolution NWP models provide valuable forecast guidance but are computationally very expensive. This project aims to develop an AI/ML model that can emulate the simulation of a high-resolution NWP model over a target domain by learning the relationship between large-scale atmospheric conditions and high-resolution model behaviour.	Computer Science and Engineering, Artificial Intelligence, Data Science, Statistics, Physics, Mathematics, Earth System Science, or related disciplines. Completion of 2 nd year of study.	Knowledge and experience in Python and ML frameworks required. Interest in meteorology, AI and ML is preferred.	SO(F)121

F3a	Development of Location-specific Probabilistic Rainfall Guidance based on Ensemble Prediction System	<ul style="list-style-type: none"> (i) Study and enhance automatic location-specific Probability of Precipitation (PoP) guidance using Numerical Weather Prediction (NWP) and Artificial Intelligence (AI) Ensemble Prediction System (EPS) data; (ii) incorporate real-time observations from automatic weather stations to enhance PoP guidance; and (iii) conduct verification against observations in selected cases and different seasons. 	<p>Physics, Earth System Science, Mathematics, Statistics, Computer Science, or related disciplines.</p> <p>Completion of 2nd year of study.</p>	<p>Knowledge in programming using Python libraries for data science and machine learning.</p> <p>Genuine interest in meteorology or numerical weather prediction is preferred.</p>	EO(F)31 & SSO(F)3
F3b	Enhance severe weather nowcast algorithm for high-impact significant convective weather phenomena using machine learning	<ul style="list-style-type: none"> (i) Study and enhance detection of severe weather object on radar image, such as intense gusts, hail, and thunderstorms; (ii) develop AI / machine learning (AI/ML) algorithm to predict location and intensity of severe weather object for the next 1-2 hours; and (iii) conduct case studies and verification of the AI/ML method using severe weather cases and real-time data. 	<p>Meteorology, Earth System Science, Physics, Computer Science and Engineering, Artificial Intelligence, Mathematics, Statistics, or related disciplines.</p> <p>Completion of 2nd year of study.</p>	<p>Knowledge in data processing, applications of Python libraries for data science and machine learning.</p> <p>Genuine interest in meteorology and application of weather radar data.</p>	EO(F)32 & SSO(F)3

R2	Create multimedia content on satellite and radar science for public education	Assist in production of educational videos for the new series of online video course on topics of satellite and radar including script writing, editing of graphics and post-production. The videos are expected to deliver scientific knowledge in an easily understandable style by public, and would be uploaded on HKO YouTube.	Creative Media, Multimedia Technology, Digital Design, Animation, or related disciplines. Completion of 2 nd or 3 rd year of study.	Proficiency in digital video production and editing software (e.g. Adobe Premiere) and/or animation production and software (e.g. Adobe Illustrator, After Effects). Applicant must submit a portfolio of previous work, and specify contribution in submitted projects.	SO(R)21
R4	Study of Atmospheric Dispersion Results under different meteorological conditions	HKO has been utilising Java-based Real-time On-line Decision Support (JRODOS) to simulate dispersion of radioactive material and atmospheric events to facilitate nuclear emergency and environmental assessments. This project aims to study the characteristics of model outputs under different meteorological conditions. The student is expected to: (i) run JRODOS model; (ii) study the characteristics of deterministic and ensemble outputs; and (iii) carry out case study in different weather scenarios.	Physics, Earth System Science, Nuclear Science, Computer Science, or related disciplines. Completion of 2 nd year of study.	Knowledge in programming skills (including database retrieval) and statistical analysis are preferred. Interest in dispersion modelling is a plus.	SEO(R)41 & SO(R)42