esa SOCIS

Summer of Code in Space

[Home](#) » Projects

Projects

Listed here are the projects that are part of the SOCIS 2019 program.

Find [here the list of all project ideas](#) that were submitted this year.

Sponsored by ESA/ESRIN – PhiLab

A1	**Advanced Cloud Detection** Mentor: Luis Veci, SkyWatch Student: Aaron Pinto, McMaster University, Canada	
A2	**NLP EO Data Search** Mentor: Joel Cumming, SkyWatch Student: Lily Yang, University of Waterloo, Canada	
A3	**Whale detection in time and space using AI** Mentor: Linwood Pendleton, WWF Student: Manuel Rey Area, Autonomous University of Barcelona, Spain Repository: https://github.com/manurare/SOCIS_2019	
A4	**Detecting wildlife waterholes with AI** Mentor: Aurélie Shapiro, WWF Student: Shashank Shekhar, University Of Guelph, Canada	
A5	**AI4EO forecast** Mentor: Pablo Ruiz Sánchez, Deep Blue Globe Student: Gábor Péterffy, Eötvös Loránd University, Hungary Repository: https://gitlab.com/DeepBlueGlobe/ai4eo-forecast	

Sponsored by ESA/ESTEC – Adv. Concepts & Studies Office

B1	**GUI and communications in embedded C / C++ Python** Mentor: Bence Nagy, Alba Orbital Ltd. Student: Scott Hurley, University of Strathclyde, Scotland	

B2   **Solar sailing design using ants intelligence**

Mentor: Dario Izzo, pagmo

Student: Giacomo Acciarini, TU Delft, The Netherlands

Repository: https://github.com/esa/pagmo2

B3   **Multi-objective trajectory optimization for GTOP**

Mentor: Marcus Märtens, Pykep

Student: Mike Heddes, Amsterdam University of Applied Sciences, The Netherlands

Repository: https://github.com/esa/pykep

B4   **Extension of the library as a package for symbolic calculations**

Mentor: Ritwik Saha, EinsteinPy

Student: Sofía Ortín Vela, Universidad de Zaragoza, Spain

Repository: https://github.com/einsteinpy/einsteinpy.github.io

B5   **Orbit determination using SatNOGS network and Orekit**

Mentor: Luc Maisonobe, Orekit

Student: Noel Janes, University of Glasgow, Scotland

Repository: https://gitlab.orekit.org/socis/satnogs-orbit-determination

B6   **Mission Design Module**

Mentor: Dominic Dirkx, Delft University of Technology

Student: Marie Fayolle-Chambe, TU Delft, The Netherlands

B7   **Graph Designer**

Mentor: Marcos Cardinot, Evoplex

Student: Eleftheria Chatziargyriou, Aristotle University of Thessaloniki, Greece

Repository: https://github.com/evoplex

B8   **gr-satellites, a SDR amateur satellite receiver framework: expanding the CCSDS stack support**

Mentor: Daniel Estévez, GNU Radio

Student: Athanasios Theocharis, Aristotle University of Thessaloniki, Greece

Repository: https://github.com/daniestevez/gr-satellites

B9   **Expand the scope of solarbextrapolation**

Mentor: Alex Hamilton, SunPy

Student: Tianxiao Ma, Swiss Federal Institute of Technology Lausanne, Switzerland

Repository: https://github.com/sunpy/solarbextrapolation

B10   **Land art with blockchain and satellites**

Mentor: Denisa Kera, University of Salamanca

Student: Yash Sharma, University of Strathclyde, UK

B11   **Machine Learning on health-keeping telemetry for cubesat awareness and diagnostic**

Mentor: Redouane Boumghar, Libre Space Foundation

Student: Jan-Peter Ceglarek, Technical University of Darmstadt, Germany

B12	**Portable AI solutions for test results analysis**
	Mentor: Carla Salas, Thales Alenia Space España
	Student: Divija Palleti, Indian Institute of Information Technology, India
	Repository: https://github.com/ThalesAleniaSpace/SOCIS

Honorable Participation

These projects are either self-funded by the respective organizations or run without sponsorship, but undergo same reviews as sponsored projects.

C1	**Super-resolution Imaging through High-frequency Subbands Prediction in the Wavelet Domain**
	Mentor: Vicente González Ruiz, P2PSP.org
	Student: Shobhit Patel, Pranveer Singh Institute Of Technology, India
	Repository: https://github.com/vicente-gonzalez-ruiz/Super-resolution_Imaging

C2	**Visual Relativity using EinsteinPy**
	Mentor: Shreyas Bapat, EinsteinPy
	Student: Varun Singh, Indian Institute of Technology Mandi, India

C3	**Software for Evaluation of Data from Cosmic Ray Detectors AIRDOS and SPACEDOS**
	Mentor: Ondrej Ploc, Nuclear Physics Institute of the CAS
	Student: Micky Yun Chan, Latvian University of Life Science and Technologies, Latvia

C4	**Adaptive Mesh refinement for EinsteinPy**
	Mentor: Priyanshu Khandelwal, EinsteinPy
	Student: Chinmay Talegaonkar, Indian Institute of Technology Bombay, India

C5	**Land art with blockchain and satellites**
	Mentor: Denisa Kera, University of Salamanca
	Student: Ayush Prasad, Sikkim Manipal Institute of Technology, India

C6	**Land art with blockchain and satellites**
	Mentor: Denisa Kera, University of Salamanca
	Student: Yu Hang, Wen Zhou University, China

C7	**Improving the Graphical User Interface (GUI) for monitoring the GNSS-SDR status in real time**
	Mentor: Carles Fernandez, GNSS-SDR
	Student: Alvaro Cebrian, Universitat Politècnica de Catalunya, Spain
	Repository: https://github.com/acebrianjuan/gnss-sdr-monitor

C8	**Lone Pseudoranger: Orbit determination by doppler shift tracking CubeSats**
	Mentor: Andreas Hornig, AerospaceResearch.net
	Student: Felipe Leonardo Gómez-Cortés, Universidad de Los Andes, Colombia
	Repository: https://github.com/aerospaceresearch/orbitdeterminator

| C9 | **Improving the Jhelioviewer client using conditional replenishment**

Mentor: Vicente González Ruiz, P2PSP.org

Student: Dhiraj Sharma, Army Institute of Technology, India

Repository: https://github.com/vicente-gonzalez-ruiz/JHelioviewer-SWHV |

Powered by 🅦 – Designed with the Customizr theme