

Innovative Solutions In Space B.V. is looking for a:

Digital Signal Processing Intern

ISIS – Innovative Solutions In Space BV is an ambitious and dynamic company in the space sector and located in Delft, The Netherlands. ISIS develops and offers products and services for the space sector, with a focus on small satellites. The company has a strong international focus, and is a systems integrator of CubeSat and nanosatellite (<25kg) platforms. Currently, ISIS employs over 90 mechanical, electronic, software, embedded and space systems engineers.

ISIS is developing an optical instrument for the high-precision attitude determination task of the Attitude and Orbit Control System (AOCS) that flies in our and our customer's satellites. A vital step in performing this task entails taking star images and analysing them. These images are noisy and need to be processed to improve their Signal-to-Noise Ratio (SNR).

The candidate will work on a project to develop algorithms for improving the SNR of these star images. The candidate will be responsible to research, develop and apply leading-edge technologies in Digital Signal Processing (DSP), under the constraint that these algorithms will be running in an embedded processor environment and with strict execution time limitations.

YOUR RESPONSIBILITIES:

- Familiarize yourself with the microprocessor used for the instrument.
- Research, develop and compare several state-of-the-art DSP methods to improve the SNR of test images.
- Generate prototype code (MATLAB, Python) and, if time allows, flight code in C.
- Produce the required documentation, including a technical report with an analysis of your findings and a maintenance manual of the software developed.

PREREQUISITES:

- Currently studying (or recently finished) degree in Electrical or Electronics Engineering or Computer Science.
- Proven practical experience in DSP (e.g. projects at University, other work).
- A good grasp of embedded software limitations.
- Familiarity with prototyping environments (MATLAB or Python).
- Proficiency in English as working language (written and spoken).

RECOMMENDED:

- Familiarity with the ARM7 core family of microprocessors.
- Experience in improving the SNR of images, especially astrophotography.
- Likes a challenge!

ISIS offers you a challenging several-month stay within a multidisciplinary team of engineers. The company offers the required training and professional coaching. ISIS has a strong international focus and is strategically located in Delft, The Netherlands. You can send your CV and cover letter via e-mail to: recruitment@isispace.nl