

# WILLIAM TJIONG

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## Objective

To gain knowledge about the applications of remote sensing and GIS in **solving global issues**. With the acquired skills, I would like to contribute to a pleasant environment which is **sustainable, clean and safe** for everyone. Furthermore, I am passionate about **visualizing spatial data**. Personally, I believe that spatial data is a powerful asset for companies with regards to decision making processes or defining direction of development. In the future, I want to be a **GIS engineer** who can create value from spatial data.

## Education

2014 - Current



**B.A.Sc. Land and Water Management (Dutch programme)**

*Van Hall Larenstein University of Applied Sciences, Velp*

Specializations: Applied Hydrology and Spatial Information Technology

Relevant courses:

- Urban waste water management
- Analysis and monitoring of rain and groundwater data
- Numerical modelling of groundwater and surface water
- Sustainable area development
- Acquisition, storage, analysis and visualization of spatial data
- Basic programming (Python, R, Javascript, .NET, HTML and CSS)

2013 -2014

**Higher General Secondary Education (HAVO)**

*VAVO Lyceum, Amersfoort*

Study program (profile): science, engineering and health

Dutch language and literature | Biology | Physics | Mathematics B | Chemistry | Life Science

2007- 2013

**Pre-university education (VWO)**

*Farel College, Amersfoort*

Study program (profile): science and engineering

Dutch language and literature | English language and literature | Physics | Mathematics B | Chemistry | Life Science | Arts and Visual Arts

## Work experience

Feb 2018- Current

**Optical remote sensing of rural waterways**

*Graduate intern at Waterboard Limburg, Roermond*



Bachelor's thesis research about the advantage of two commercially available optical remote sensing instruments to monitor and measure **water quality** in rural waterways. A Parrot Sequoia **multispectral camera** was used to predict the relationship between turbidity water sample and several band ratios,- band indices- and monochrome bands. A FLIR One Pro **thermal camera** was also used to investigate how well the thermal sensor is able to measure temperature of surface water.

Some research results can be found here:

<https://williamtjong.github.io/remotesensing/>

Nov 2017- Feb 2018



## Developed a QGIS cloud masking assistance tool

*Intern at eLEAF, Wageningen*

Satellite imagery may contains clouds which can be an obstacle to extraction of remote sensing data. Automatic cloud detection algorithms may provide a quick solution but in terms of accuracy, manual cloud masking is more useful. However this can be a time-consuming task for an image analyst. At eLEAF, the production team fully depends on QGIS when it comes to cloud masking. Hence, a QGIS cloud masking assistance tool could be useful in saving time and increase productivity with regard to **creating, marking and saving cloud mask layers** during pre-processing of satellite images. The tool was build in QGIS using **Python programming language**.

A documentation of this tool can be found here:

<https://williamtjong.github.io/smartgrid/>

Jan 2017- Apr 2017



## Application of gamma-ray remote sensing system

*Research intern at Eurofins Agro, Wageningen*

Potassium regulates moisture balance and growth of crops, therefore it is a valuable resource to farmers. A study was conducted to investigate the possibilities of a **gamma-ray soil scan to estimate potassium availabilty in soil**. The gamma-ray scan is able measure various radionuclides (K-40, U-238, Th-232 and Cs-137). Potassium (K-available) samples were taken from four sandy fields. Linear models were developed in **R Studio** to predict the relationship between K-available samples and K-40 scan data.

## Skills

**Software:** ArcMap | QGIS | Agisoft Photoscan | Pix4D Mapper | Adobe Photoshop | R Studio | SOBEK (basic) | Microsoft Access (basic) | Microsoft ICE | Microsoft Office (Word, Excel, PowerPoint)

**Web technology:** Leaflet JavaScript API | Folium Python API | ArcGIS Online | Google Maps JavaScript API | ArcGIS JavaScript API | GeoServer (basic) | Git

**Programming:** R | Python | HTML5 | CSS3 | .NET (basic) | JavaScript (basic)

**Language:** English (fluent) | Dutch (fluent) | Bahasa Indonesia (mother tongue)

## Hobbies and interests

**Hobbies:** photography | cinematography | playing guitar | reading science & personal development books | cooking

**Interests:** geography | webmaps | graphic design | data | drones | data visualization | web technologies | gadgets & tech | nature