

FORREST WILLIAMS

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Ankeny, Iowa

PRODUCT AND SOFTWARE DEVELOPMENT EXPERIENCE

Senior Research Software Engineer, Alaska Satellite Facility: Remote	2022 to Present
<ul style="list-style-type: none">- Project and technical lead for multiple SAR data product initiatives- Working within an agile software engineering team to design data products- Principal or Co-investigator on multiple SAR-related NASA Disaster grants- Developing AWS applications to scale scientific workflows to global scales	
PhD, Massey University: Palmerston North, NZ	2019 to 2022
<ul style="list-style-type: none">- Developed Python Sentinel-1 InSAR and optical data workflows to monitor riverine landslide sediment contributions- Developed utilities that allow MintPy to ingest HyP3 InSAR products	
NASA Jet Propulsion Laboratory Intern: Remote	2021
<ul style="list-style-type: none">- Created a Python-based UAVSAR workflow to monitor earthquakes and landslides via high-resolution InSAR analyses	
Assistant Scientist, Iowa State University: Ames, Iowa USA	2019 to 2020
<ul style="list-style-type: none">- Developed a Google Earth Engine machine learning model that predicts crop residue coverage within the Midwest's agricultural landscape using optical data	
MS, Iowa State University: Ames, Iowa USA	2017 to 2019
<ul style="list-style-type: none">- Built an ArcPython toolbox that uses high resolution imagery and terrain data to track river movement- Performed continuous in-field discharge monitoring for a flood-prone stream	

SOFTWARE ENGINEERING PROJECTS AND CAPABILITIES

Developer and Maintainer: Burst2Safe Custom-size Sentinel-1 SLC file generation HyP3-ISCE2 Sentinel-1 burst InSAR processor AIMM Aerial Imagery-based water detection and erosion monitoring INDEX_SAFE Sentinel-1 burst extraction library	
Contributor: MintPy, HyP3, HyP3-GAMMA, AutoRIFT, ISCE2	
Analysis Types: InSAR, RTC, SAR, SfM, Index-based thresholding, Change Detection, DEM Analysis	
Key Technologies: Python, Cython, GeoPandas, GDAL, Xarray, STAC, AWS, QGIS	

EDUCATION

PhD	Massey University: Palmerston North, New Zealand Interned with the Jet Propulsion Laboratory's SAR group Major: Earth Science, GPA: Not applicable	2022
MS	Iowa State University: Ames, Iowa USA Graduate Certificate in GIS Major: Environmental Science, GPA: 3.77	2019
BA	Carleton College: Northfield, Minnesota USA Major: Geology, GPA: 3.54	2016