

Corey Feduck, MGIS

Summary of Qualifications

- MGIS Graduate with background in UAV operations, data processing and vegetation analysis
- Co-founder of Corvis Aerial Inc., a small UAV company
- Advanced understanding of ArcGIS
- Several projects completed using satellite, manned and unmanned aerial imagery to extract metrics and data on vegetation structure and spectral characteristics
- Advanced understanding of photogrammetric processing
- Able to develop automated GIS/remote sensing workflows using various programming languages (Python, SQL, PHP, HTML, CSS)
- Advanced understanding of remote sensing techniques for machine learning, photogrammetric processing and object based analysis (eCognition, Photoscan Professional, SPM, R, SPSS)

See my online portfolio for examples of previous projects and deliverables: www.coreyfeduck.com

Education

Master of Geographic Information Systems 3.97/4.00 GPA – 2014 - 2016, University of Calgary, Alberta

- Degree focused on GIS, remote sensing and geostatistics
- Advanced processing of LIDAR, satellite, and UAV data
- Advanced understanding of ArcGIS, eCognition, PCI Geomatica, and statistical software
- Automated GIS processing with Python and Model Builder
- Extensive experience in UAV/UAS field data collection and analysis (>200 flights)
- Database management, predictive modelling, multi-spectral satellite image processing, object oriented and pixel based classification, vegetation structure, feature extraction, accuracy assessments

Bachelor of Arts, Anthropology: 2006 - 2011, St. Mary's University, Nova Scotia

Professional experience

2015 – current - Co-Founder and President, Corvis Aerial Inc. (Calgary, AB)

Geomatics company focused on creating UAV solutions for resource based industries. Corvis Aerial produces photogrammetric models to create DSM, high resolution multispectral imagery, vegetation structure analysis, and volumetric surveys.

- Consulted with clients to discuss potential projects and the development of solutions for technical problems
- Operated UAV/UAS for data collection
- Performed advanced spatial analyses using ArcGIS, eCognition, Photoscan Professional and other software

- Automated processing algorithms
- Processed dense points cloud and raster calculations for feature extraction

2016 - Geospatial Technician (UAV Operations) – University of Calgary (Calgary, AB)

Managed UAV operations for vegetation recovery research (BERA) in Alberta. Supervised field crews for geomatics fieldwork including RTK survey, UAV survey and geospatial sensor installment. Managed data and processing for photogrammetric processing of seismic lines.

- Developed automated GIS/remote sensing workflows using SQL, Python, PHP
- Created new algorithms for rapid assessment of vegetation structure and forest inventory for reclamation and remediation sites in western Canada and the Rocky Mountains
- Managed rotary and fixed wing UAV field operations in remote wilderness areas
- Extensive survey grade GPS (RTK) survey

2015, 2016 – Teaching Assistant: Introduction to Geospatial Methods, University of Calgary (Calgary, AB)

- Designed and delivered laboratory sessions
- Delivered lecture presentations
- Provided technical support for students
- Assisted in the design of introductory GIS assignments

2015 - UAV Research Assistant/Operator, (Norman Wells, NWT)

Managed UAV operations for University of Calgary helicopter based research in Norman Wells, Northwest Territories. Responsible for planning flights, logistics, aerial photography, data management and processing for a helicopter based seismic reclamation and remediation project.

- Processed photogrammetric models, extracted digital surface models, orthophotos and vegetation structure/forestry metrics
- Developed UAV field protocol for helicopter access survey
- Safe UAV operation for over 50 flights
- Repaired damaged UAVs and solved technical issues in field

2014 – Archaeologist, CH2M Hill, (Calgary, AB)

Supervised crews in all aspects of cultural resource management archaeology in British Columbia (Interior Plateau, Northwest Coast and Subarctic/Boreal culture areas) and Alberta, primarily for the oil and gas sector.

- Assisted in design of department forms and policies and delivered training presentations
- Interim and final report preparation
- Large scale, helicopter based site surveys, survey sampling, site recording, evaluative unit excavations

Publications and Presentations

“Detection and classification of coniferous seedlings from UAV imagery: an object based machine learning approach”, C. Feduck, G. McDermid and G. Castilla [In Draft].

“Object oriented classification of high resolution true-colour and near-infrared UAV imagery” Association of American Geographers Annual Meeting, San Francisco, April 2016.

“Detection and classification of coniferous seedlings from UAV imagery: an object based machine learning approach”, Canadian Forestry Institute Technical Session, Edmonton, November 2016.

“Detection and classification of coniferous seedlings from UAV imagery: an object based machine learning approach”, Boreal Ecosystem Recovery and Assessment Internal Stakeholders Meeting, Edmonton, November 2016.

Additional Qualifications

- Up to date first aid and an extensive list of field safety courses (list available upon request)
- UAV operator certification and SFOC for PNR
- Python programming courses
- ESRI Online Campus courses (list available upon request)
- HTML, PHP, WebGIS, web and graphic design experience