

# David Nilosek

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## EDUCATION

### ROCHESTER INSTITUTE OF TECHNOLOGY

#### PHD IN IMAGING SCIENCE

Dissertation: Spectrally Accurate Simulation of Urban Structures Generated from Aerial Imagery

March 2014 | Rochester, NY  
College of Science  
GPA: 3.80 / 4.0

### ROCHESTER INSTITUTE OF TECHNOLOGY

#### BS IN IMAGING SCIENCE

November 2008 | Rochester, NY  
College of Science  
GPA: 3.56 / 4.0

## SKILLS

### PROGRAMMING

C++17 • Go 1.12+ • Python 2/3 • MATLAB • IDL • Javascript (ES6, React.js) • Bash • HTML/CSS

### DEVELOPMENT TOOLS

AWS • Docker • Kubernetes • CMake • Jenkins • TravisCI • Git / Github • Vim • ENVI

### MANAGEMENT TOOLS

JIRA • Confluence • Modern Agile SDLC methodologies (Scrum, Kanban)

### SUBJECT EXPERTISE

Computer Vision • Remote Sensing • Hyperspectral Image Processing • Geospatial Information Systems/Mapping • Photogrammetry • Three-Dimensional reconstruction

## LINKS

Github:// [dnilosek](#)  
LinkedIn:// [david-nilosek](#)

## ABOUT ME

I am a research oriented software engineer with a deep expertise in the field of remote sensing and computer vision. I have a passion for developing novel technologies and building them from the ground up into actionable and usable product. I enjoy facing challenges where I need to learn a new process or technology to help quickly get a job done. I often find myself filling in for whatever needs to get done, either on the research or development side, for my team to ensure we meet our goals.

## EXPERIENCE

### NILOTECH LLC | OWNER

Sept 2020 - Present | Seattle, WA

- Full Time contracting with PhotonicSentry to develop and deploy a laser-based mosquito elimination system, working on the computer vision algorithms in the embedded system as well as developing the system infrastructure.
- Part time contracting with EarthOptics, built an system for monitoring and updating NDVI maps over target farm fields, fully cloud-based and serverless running on AWS
- Part time contracting with Eagleview, developing processes to align multimodal data for roof structure analysis

### EAGLEVIEW TECHNOLOGIES | SENIOR DIRECTOR OF IMAGE PROCESSING

Dec 2018 - Sept 2020 | Seattle, WA

- Designed and helped develop our next generation image processing, mapping, and geospatial data storage systems built on AWS-based solutions using go, python, and modern C++
- Modeled and managed cloud costs of our image processing systems in AWS
- Built supporting backend and frontend services using go and React.js for various systems within the image processing domain

### EAGLEVIEW TECHNOLOGIES | RESEARCH SCIENTIST / SOFTWARE ENGINEERING MANAGER

Sept 2012 - Dec 2018 | Rochester, NY/Seattle, WA

- Helped to establish and lead the research efforts within the Property Drone Consortium, a nonprofit collaboration between insurance and technology companies with the goal of driving innovation with UAVs in the insurance sector
- Developed techniques for three-dimensional analysis and exploitation of image-derived surface models for automated structure measurements with UAVs
- Developed framework for multi-view stereo processing using modern approaches (cost-aggregation, semi-global matching)
- Helped design and develop a large-scale data processing system for processing millions of images a day using AWS services using modern C++
- Implemented a framework for rapid R&D using EVT imagery

### LOS ALAMOS NATIONAL LAB | GRADUATE STUDENT INTERN

June 2012 - Sept 2012 | Los Alamos, NM

- Developed application for structure from motion processing for persistent surveillance IR imagery

## PUBLICATIONS & PATENTS

- [1] J. Arney and D. Nilosek. Analysis of print gloss with a calibrated micro-goniophotometer. *Journal of Imaging Science and Technology*, 2007.
- [2] D. Nilosek and C. Salvaggio. Applying computer vision techniques to perform semi-automated analytical photogrammetry. *IEEE Xplore*, 2010.
- [3] D. Nilosek, D. Walvoord, and C. Salvaggio. Assessing geoaccuracy of structure from motion point clouds from long-range image collections. *Optical engineering*, 2014.
- [4] S. Schultz, D. Nilosek, and J. Dvorak. Biometric data hashing, verification and security, U.S. Patent 9,935,948, filed Sept 19 2016 and issued April 3 2018.
- [5] S. Schultz, D. Nilosek, D. Petterson, and T. Harrington. Augmented three dimensional point collection of vertical structures, U.S. Patent 9,992,912, filed Jan 21 2014 and