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

ROCHESTER INSTITUTE OF TECHNOLOGY
BS in Imaging Science

November 2008 | Rochester, NY
College of Science

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.

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

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
- 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++

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

SELECTED 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. Asessing 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 9,292,913, filed Jan 31 2014 and issued Mar 22 2016.