

# Jason R. Parham

PH.D. STUDENT · COMPUTER VISION

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## Education

### Rensselaer Polytechnic Institute

DOCTOR OF PHILOSOPHY · COMPUTER SCIENCE · COMPUTER VISION

Troy, NY

Aug 2012 - PRESENT

- Advised by Dr. Charles V. Stewart, Computer Science Department Chair
- Anticipated Graduation: May 2018
- Cumulative GPA: 4.0

### Rensselaer Polytechnic Institute

MASTER OF SCIENCE · COMPUTER SCIENCE · COMPUTER VISION

Troy, NY

Aug 2012 - Dec 2015

- Master's Thesis: "Photographic Censusing of Zebra and Giraffe in the Nairobi National Park"

### Pepperdine University

BACHELOR OF SCIENCE · COMPUTER SCIENCE / MATHEMATICS

Malibu, CA

Aug 2008 - May 2012

## Experience

### Kitware

COMPUTER VISION RESEARCH INTERN

Clifton Park, NY

May 2015 - PRESENT

- Designed and developed deep learning Python library (KWCNN) using Lasagne / Theano with automated network definition and model training
- Designed and developed aerial change detection system using supervised fully-convolutional neural networks and unsupervised auto-encoders

### Rensselaer Polytechnic Institute

GRADUATE RESEARCH ASSISTANT

Troy, NY

Aug 2014 - PRESENT

- Designed and developed IBEIS (Image Based Ecological Information System) Image Analysis system as member of inter-disciplinary collaborative research team between Rensselaer Polytechnic Institute, Princeton University, University of Illinois-Chicago, and WildMe
- Computer vision research emphasis is in object localization, classification, detection, and segmentation in the real world

### Rensselaer Polytechnic Institute

GRADUATE TEACHING ASSISTANT

Troy, NY

Aug 2012 - PRESENT

- Head / administrative TA for introductory Computer Science I (Python) and graduate-level Computer Vision courses; experience as a lab and office hour instructor, managing web-based grading system (Submittity) and automated grade distribution
- Experience managing a team of 11 TAs, 21 sections, and over 650 concurrent students across 6 semesters and multiple professors

### Self-Employed

FULL STACK WEB DEVELOPER

Cohoes, NY

Aug 2012 - PRESENT

- Designed and developed customized, web-based applications, including experience with WordPress CMS

## Publications

### Animal Population Censusing at Scale with Citizen Science and Photographic Identification

Stanford, CA

AAAI SPRING SYMPOSIUM SERIES 2017 (SSS-17) · GREVY'S ZEBRA TRUST

Mar 2017

- Accepted Submission

### The Great Grevy's Rally: The Need, Methods, Findings, Implications and Next Steps

Nairobi, Kenya

SELF-PUBLISHED · PRINCETON UNIVERSITY

Sep 2016

### Detecting Plains and Grevy's Zebras in the Real World

Lake Placid, NY

IEEE WINTER CONFERENCE ON APPLICATIONS OF COMPUTER VISION (WACV) WORKSHOPS 2016

Mar 2016

### Photographic Censusing of Zebra and Giraffe in the Nairobi National Park

Troy, NY

MASTER'S THESIS · RENSSELAER POLYTECHNIC INSTITUTE

Dec 2015

### The Great Zebra and Giraffe Count: The Power and Rewards of Citizen Science

Nairobi, Kenya

SELF-PUBLISHED · KENYA WILDLIFE SERVICE

Jul 2015

### Technical Report: Evaluation of Transfer Learning for Viewpoint Classification

Troy, NY

SELF-PUBLISHED · RENSSELAER POLYTECHNIC INSTITUTE

Dec 2014

## Presentations

### Tech Lunch with Computer Vision Research Intern Jason Parham on Unsupervised Deep Learning with KWCNN

Clifton Park, NY

PRESENTER · KITWARE SUMMER 2016 TECH TALK LUNCH SERIES

Aug 2016

### Detecting Plains and Grevy's Zebras in the Real World

Troy, NY

POSTER · COMPUTER SCIENCE ACCEPTED STUDENTS DAY POSTER SESSION

Apr 2016

### Detecting Plains and Grevy's Zebras in the Real World

Lake Placid, NY

PRESENTER · 2<sup>ND</sup> WORKSHOP ON AUTOMATED ANALYSIS OF VIDEO DATA FOR WILDLIFE SURVEILLANCE

Mar 2016

### Tech Lunch with Computer Vision Research Intern Jason Parham introducing the KitWare Convolutional Neural Network (KWCNN) Python Module with Live Demos

Clifton Park, NY

PRESENTER · KITWARE SUMMER 2015 TECH TALK LUNCH SERIES

Aug 2015

### Photographic Censusing of Zebra and Giraffe in the Nairobi National Park

Troy, NY

PRESENTER · MASTER'S THESIS DEFENSE

Aug 2015

### Citizen Science Data Collection with Processing Bottlenecks

Troy, NY

POSTER · COMPUTER SCIENCE ACCEPTED STUDENTS DAY POSTER SESSION

Apr 2015

## Projects

### IBEIS Computer Vision System / Wildbook Image Analysis Plug-in

Python / C / C++ / SQLite

Lasagne / Theano / CUDA

GITHUB.COM/WILDBOOKORG/IBEIS

Aug 2013 - PRESENT

- A stand-alone image and algorithm manager for computer vision image processing; integrates with Wildbook wildlife system via REST API
- Prototypes used at three conservancies in Kenya and during the GZGC (Great Zebra and Giraffe Count) and GGR (Great Grevy's Rally) censusing rallies

### Intercheck

Python

GITHUB.COM/BLUEMELLOPHONE/INTERCHECK

Feb 2015 - PRESENT

- An automated SpeedTest logger and graphing web interface for monitoring Internet connectivity; designed for use on Raspberry Pi 3

### Submittly · Rensselaer Center for Open Source Software (RCOS)

PHP / HTML / CSS / MySQL

JavaScript / jQuery / AJAX

GITHUB.COM/SUBMITTY/SUBMITTY

Sep 2012 - PRESENT

- A web-based homework submission system with automated code execution, auto-grading, and rubric-based TA grading interface

### Cryptographically Secure E-Voting Protocol

Python

GITHUB.COM/BLUEMELLOPHONE/JDKK-PROTOCOL

Mar 2013 - May 2013

- A scalable, secure e-voting protocol that is hardened against a malicious election judge and colluding voters

### Cryptographically Secure ATM Communication Protocol

C++

GITHUB.COM/BLUEMELLOPHONE/JTM-PROTOCOL

Sep 2012 - Nov 2012

- A secure communication protocol for use between a bank and ATM that uses asymmetric and symmetric encryption

## Committees

### IEEE Winter Conference on Applications of Computer Vision (WACV) 2017

Santa Rosa, CA

WACV 2017 CONFERENCE PAPER REVIEWER

Mar 2017

### Accepted Graduate Students Peer Reception Committee

Troy, NY

MENTOR

Aug 2016

## Extracurricular

### Association for the Advancement of Artificial Intelligence (AAAI)

Troy, NY

STUDENT MEMBER

Jan 2017 - PRESENT

### The Computer Vision Foundation (CVF)

Troy, NY

MEMBER

Jan 2017 - PRESENT

### Institute of Electrical and Electronics Engineers (IEEE)

Troy, NY

STUDENT MEMBER

Mar 2016 - PRESENT