

Ben Koger benkoger@gmail.com

Education

Current - Max Planck Institute for Animal Behavior Department of Collective Behaviour and University of Konstanz - Prospective Ph.D.

Build deep learning based systems for studying ungulate herds in Kenya with drones. Study collective decision making in predator prey systems. Create machine learning based multi-agent simulations. Design theoretical models that describe how collective groups make decisions in the presence of noise.

2016 - Princeton University - Electrical Engineering - BSE

Courses include: Big Data Analysis; Probability and Stochastic Systems; Artificial Intelligence; Computer Vision; Image Processing; Algorithms and Data Structures; Designing and Building Real Systems; Multivariable Calculus; Linear Algebra; Intermediate Chinese.

2012 - Commonwealth High School - Boston MA

Parents Day Speaker - AP Scholar with Distinction - National Merit Semifinalist

Teaching

Ongoing - Princeton Max Planck Summer Internship Program

Total of 11 interns over 3 years. I conceived of and run program. Handle all logistics before and after students arrive. Help advise certain interns while here.

Ongoing - Introduction to Programming and Data Science - University Konstanz, Germany

Six week course I plan and teach for about twenty masters of biology students. Taught in python.

2013 - Introduction to Computer Science - ChengYin Private Academy, Shanghai China

Eight week summer course for 10 students I planned and taught. Taught in Java

Talks

2019 - Conference Talk - IMPRS Grand Challenges

“Combining Drones and Deep Learning To Study Animal Collectives in the Wild”

2019 - Conference Talk - The Association for the Study of Animal Behaviour

“Drones and Deep Learning Reveal Visually-mediated Collective Decision Making in the Wild”

2019 - Conference Talk - The Association for the Study of Animal Behaviour

“Deep learning for object detection and recognition”

2019 - Lab Talk - Intelligent Control Lab at the Peking University School of Engineering

“Using Drones and Deep Learning to Study Animal Collective Behavior in the Wild.”

2018 - Conference Talk - Seminar on Wildlife Tracking from Unmanned Aerial Vehicles with

Machine Learning.

“Using Drones and Deep Learning in the Field.”

Posters

2019 - Movement Ecology of Animals Gordon Conference and Seminar - Tuscany Italy

“Individual information access resulting from fine-scale movement decisions”

2018 - ICTP Conference on Collective Behavior - Trieste Italy

“Automatically Detecting and Behaviorally Tracking Animals Filmed in the Wild”

Grants

2017 - GPU Hardware Grant - NVIDIA Corporation - \$1035

co-written with Blair Costelloe

Skills

Programming with Python (including Tensorflow, pytorch), C++, and Java (including Android)

Experienced with Photoshop, InDesign, Arduino, and LTSPICE

Basic proficiency in Mandarin

Underwater photography/SCUBA diving