# Noel Dunning

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## SUMMARY

I am a new graduate of the University of Illinois – Urbana-Champaign (May 2025) and am one of the first students to graduate with UIUC's new Computer Science + Animal Sciences program (GPA: 3.3). All four years of my undergraduate studies, I worked as an undergraduate researcher in Dr. Isabella Condotta's Lab for the Precision Management of Animals, where I learned to apply computer vision and machine learning (ML) to agriculture, livestock, and conservation. I am now seeking full-time positions to further develop my skills in software development and ML with applications in agriculture and biotechnology.

**EDUCATION** – BS in Computer Science + Animal Sciences, University of Illinois – Urbana Champaign

## EXPERIENCE

**I-DigitAL Research Lab – Precision Management of Animals (PMA)** **(Spring 2021 – May 2025)**

I-DigitAL is a UIUC Animal Science research lab lead by Dr. Isabella Condotta. It focuses on using computer vision and machine learning to improve efficiency and animal welfare in livestock production.

- Collected video data at livestock farms for use in object detection and classification
- Used OpenCV, PyTorch, TensorFlow, YOLO, in Python to train computer vision ML models
- Presented in UIUC undergraduate research symposiums (2022, 2023, 2024, 2025)

Utilized Skills: Computer Vision, Image Processing, Machine Learning, Python, MATLAB, Data Collection, Animal Handling, Academic Writing, Data Management, Public Speaking, Communication Skills

**Mathnasium, Math tutor** **(Fall 2020 - Fall 2021)**
Taught math concepts and interacted with clients professionally

**FIRST Robotics, Team 1816 "The Green Machine"** **(Fall 2018 – Spring 2020)**
Applied math, design, engineering skills, CAD, Laser Engraving, CNC Mill

## PROJECTS

**Adaptive Facial Recognition for Swine** – Development of a novel ML model to distinguish individual pigs from birth to finishing (6mo). Used OpenCV and YOLO in python for local model development.

**Automated River Fish Survey via Computer Vision** – Development of a novel ML model to detect when fish pass through dam passes and classify their species to survey rivers and detect invasive species

## RELEVANT COURSEWORK

**CS225, Data Structures** – Implementation of data structures, application of algorithms, C++
**CS374, Intro to Algs & Models of Comp** – Design and analysis of algorithms, graph algorithms
**CHEM576, Computational Chemical Biology** – Use of new computational biological tools e.g. Alphafold3
**ANSC221, Cells, Metabolism, and Genetics** – Foundations of cellular biology, genetics, biochemistry
**CPCS486, Plant Growth and Development –** Plant development, plant biochemistry, plant anatomy
**ANSC499, Technology and Management** – ML in agricultural applications, PMA systems, CV models