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# DRONES FOR HUMANITY



# Team Members' Positions

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Nicholas Davis	<a href="mailto:davisn2017@my.fit.edu">davisn2017@my.fit.edu</a>	Avionics/ Propulsion/ Aerodynamics
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CJ Gagni	<a href="mailto:cgagni2019@my.fit.edu">cgagni2019@my.fit.edu</a>	Avionics
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# Faculty Advisor and Client

- The CS faculty advisor for this project is Dr. Debasis Mitra
- The client for this project is the project team
- Client meetings on Thursdays at 4PM

# Project Goal and Motivation



Our Goal: To design a drone capable of detecting forest fires and informing its operator of the location of a detected fire



Our Mission: To create an easy to use system to prevent the occurrence of a large-scale forest fire

# Key Features



A FLEET OF DRONES WILL BE LAUNCHED  
TO SURVEY A SELECTED AREA



THOSE DRONES WILL USE THERMAL  
IMAGING CAMERAS TO SCAN THE  
LANDSCAPE FOR EXCEEDINGLY HIGH  
THERMAL SIGNATURES



IF A HIGH TEMPERATURE IS DETECTED,  
THE DRONE WILL ALERT THE OPERATOR  
OF THE ISSUE SO THEY CAN DISPATCH A  
TEAM TO EXTINGUISH

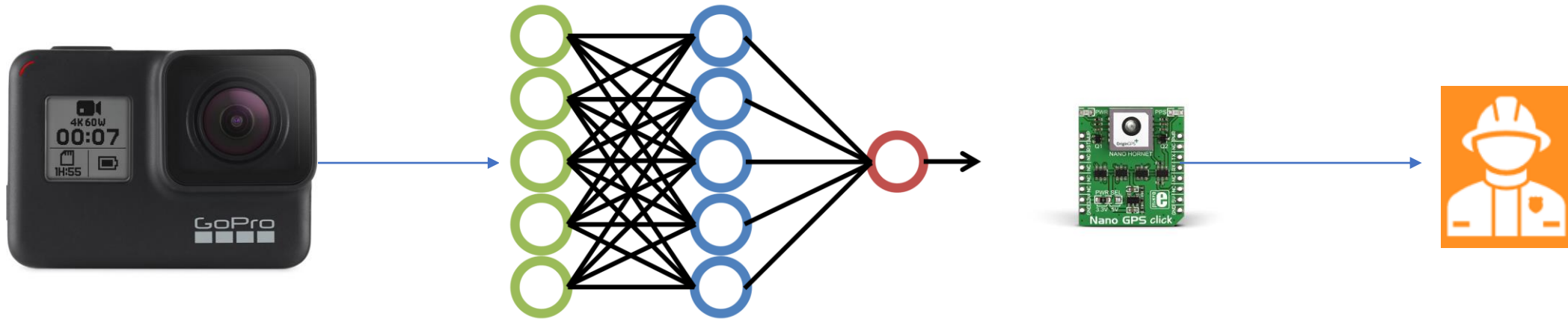
# Technical Challenges



- Computer vision is more advanced than undergraduate curriculum
- There are not many forest fire datasets, and the accuracy of the neural network may be bottlenecked by the quality of the data



# Design

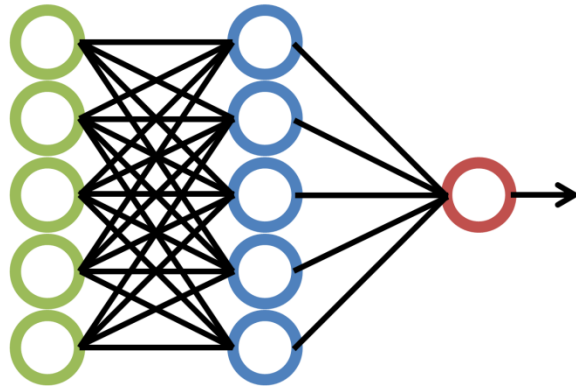


# Evaluation

- The ideal way to evaluate this project (CS part) is the accuracy of the forest fire detection. If the drone can properly identify fire at a high enough accuracy, the project should be considered a success.



# Milestone 4



Ensemble Methods



Find a better comparison dataset

# Milestone 5

- Connect all physical components
- Set up GPS chip signaling
- Evaluation results
- Showcase poster

# Milestone 6

- Improve/modify neural network
- Test/demo entire system
- Evaluation results
- Create user/developer manual
- Create demo video