Artificial neural network for image classification

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Quick overview

- Loosely based on biological neural networks
- Able to learn by changing the connection strengths between different nodes
- Hierarchical structure
My implementation

- Python
- 1 hidden layer
- Fully-connected
- CIFAR-10
Why this project?

- Artificial intelligence is very cool
- Jeff Hawkins “On Intelligence”
- Hype that superintelligence is right around the corner
Goals

- Understand how artificial neural networks work
- Get it working
- Achieve an accuracy of 50%
Process

- Read a lot of literature
- Got together with Tambet every week
- Mindlessly trying to implement some code
- Working with matrices is inconvenient
- After reading the same text for the 10th time, some of the things finally make sense
Results

- Learned a lot
- Got it working
- Has a relatively poor accuracy, being able to classify the images correctly only 38% of the time
What next?

- Refactor the code
- Keep on learning and implement a convolutional neural network with multiple hidden layers
Thank you :)