Technical University of Munich

Artificial Intelligence for Embedded Systems

WS 18-19

Status Report 1

Lung Cancer Detection

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1 Tasks accomplished:

Significant progress has been made starting from our project idea. We came up with different data sets, but after carefully examining our application and use cases we were able to narrow down our selection to a data set we believe is perfect for the detection of lung cancer and is hopefully not so computational intensive and hence be implemented on our Raspberry pie. Following are the major tasks accomplished since the Project Proposal presentation:

- Finalization of Dataset
- Dataset visualization
- Dataset Pre-processing
- CNN architecture finalization for our application
- TensorFlow programming skeleton for CNN

Next up are the tasks that we hope to accomplish by the next milestones (Project Progress Presentation)

- Training
- Hyper-parameter tuning
- Testing
- Getting started with Raspberry-pi

2 Team contribution:

Task	Responsibility
Dataset finalization	Zain, Ali, Sarfaraz
Dataset visualization	Ahmed, Ali
Dataset preprocessing	Ali, Ahmed
CNN Architecture finalization	Sarfaraz, Ahmed, Zain
TensorFlow programming	Zain, Sarfaraz

3 Major Deviation from the Proposal

As of yet, there are no major changes or deviations from the proposal, and our project is aimed to accomplish the objectives initiated in our Project Proposal.

4 Major Hurdles Ahead

The only major hurdle ahead is the implementation on Raspberry pi, since raspberry pi is a resource constraint device and implementing the neural network on it is challenging especially for large data sets. In order to deal this we have to come up with a solution to the design and optimize the model such that it performs well on such embedded systems.