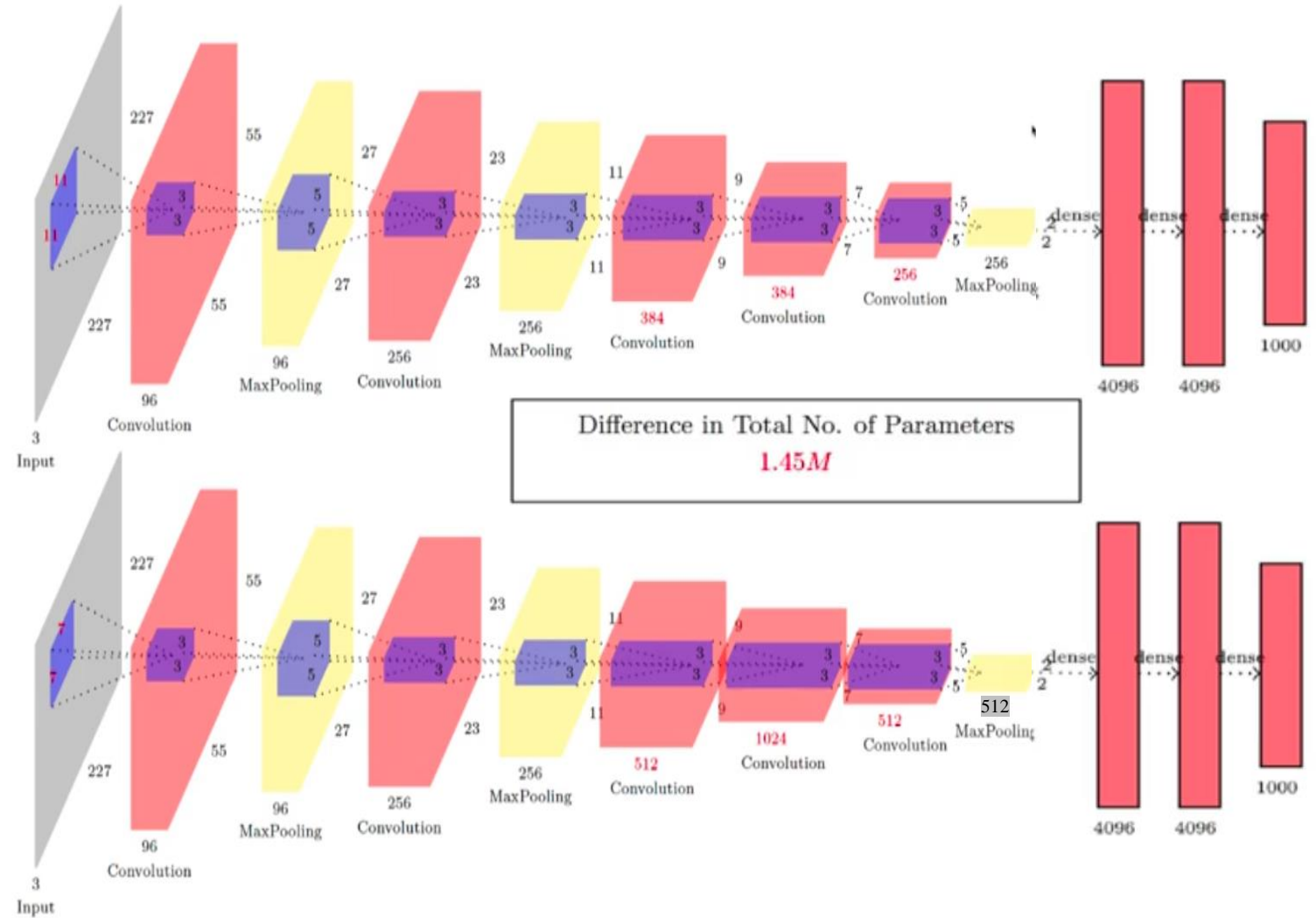# Deep Learning: VGGNet, GoogLeNet
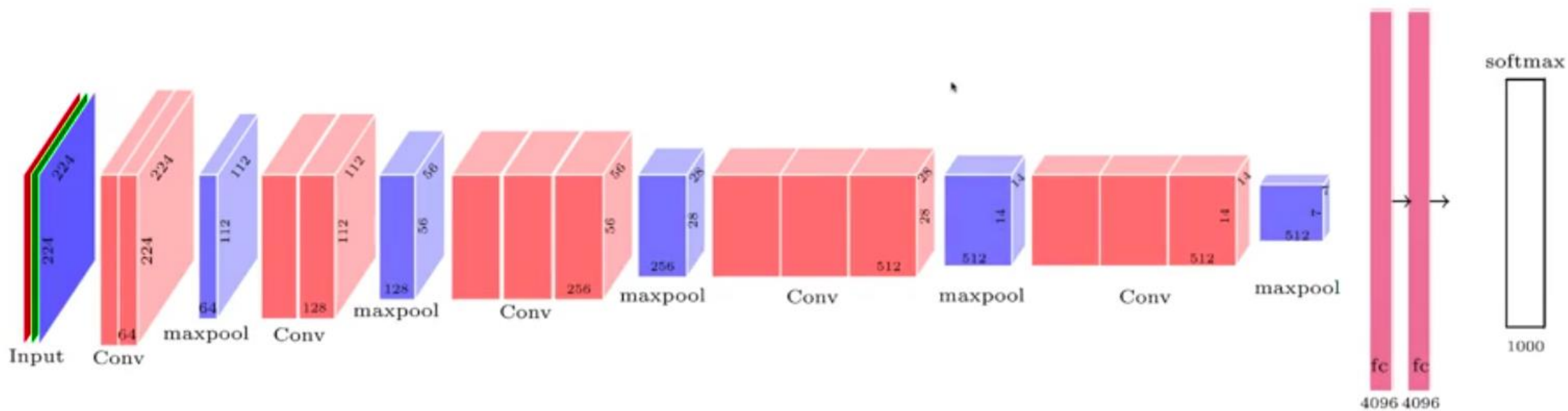
राष्ट्रीय प्रौद्योगिकी संस्थान सिक्किम

NATIONAL INSTITUTE OF TECHNOLOGY SIKKIM
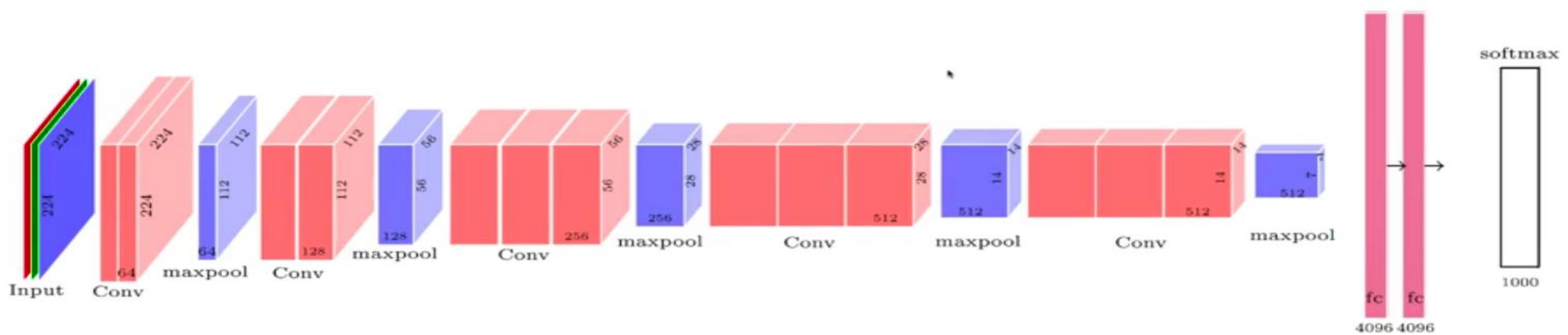
Course Instructor:

Dr. Bam Bahadur Sinha

Assistant Professor

Computer Science & Engineering

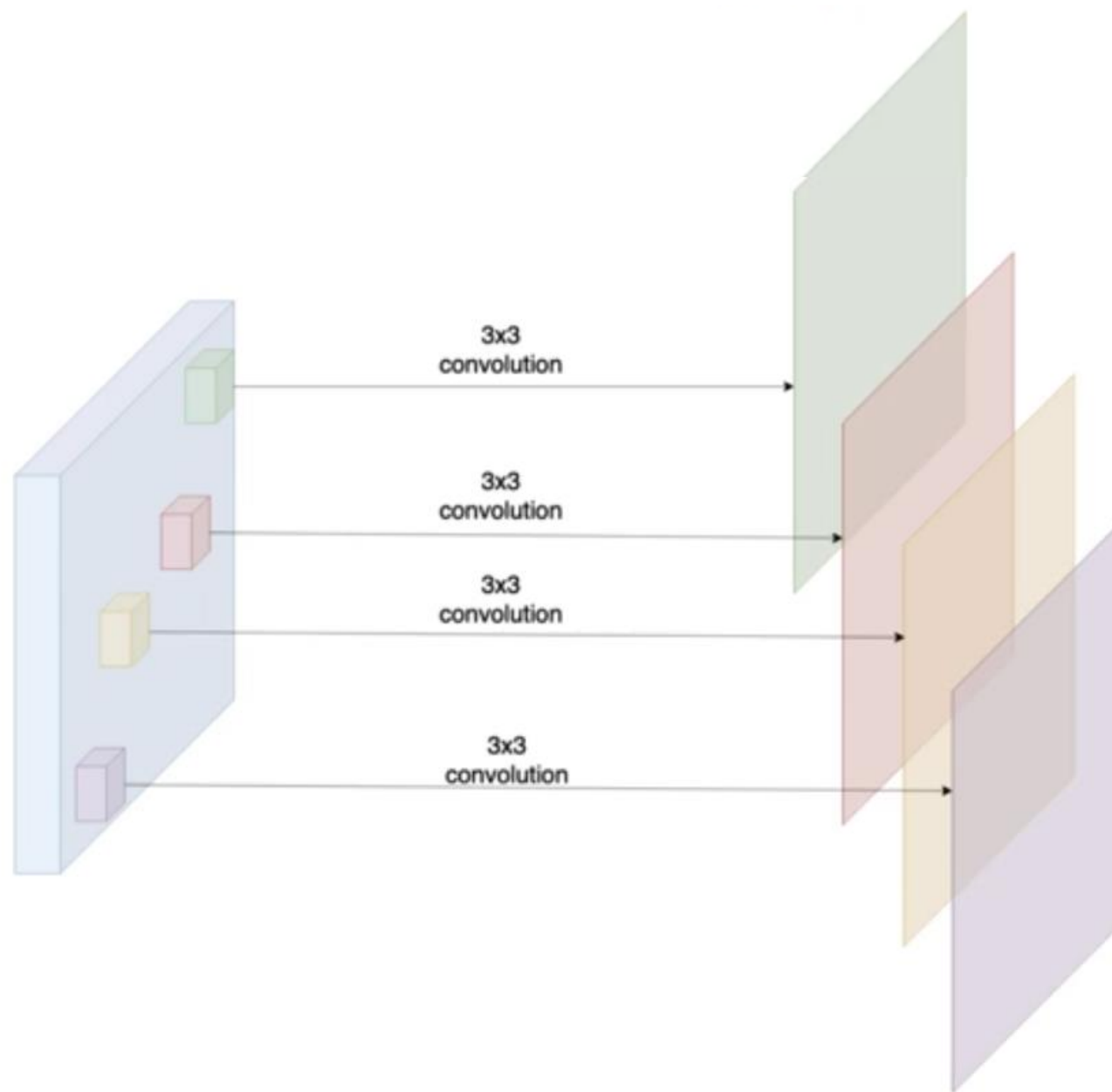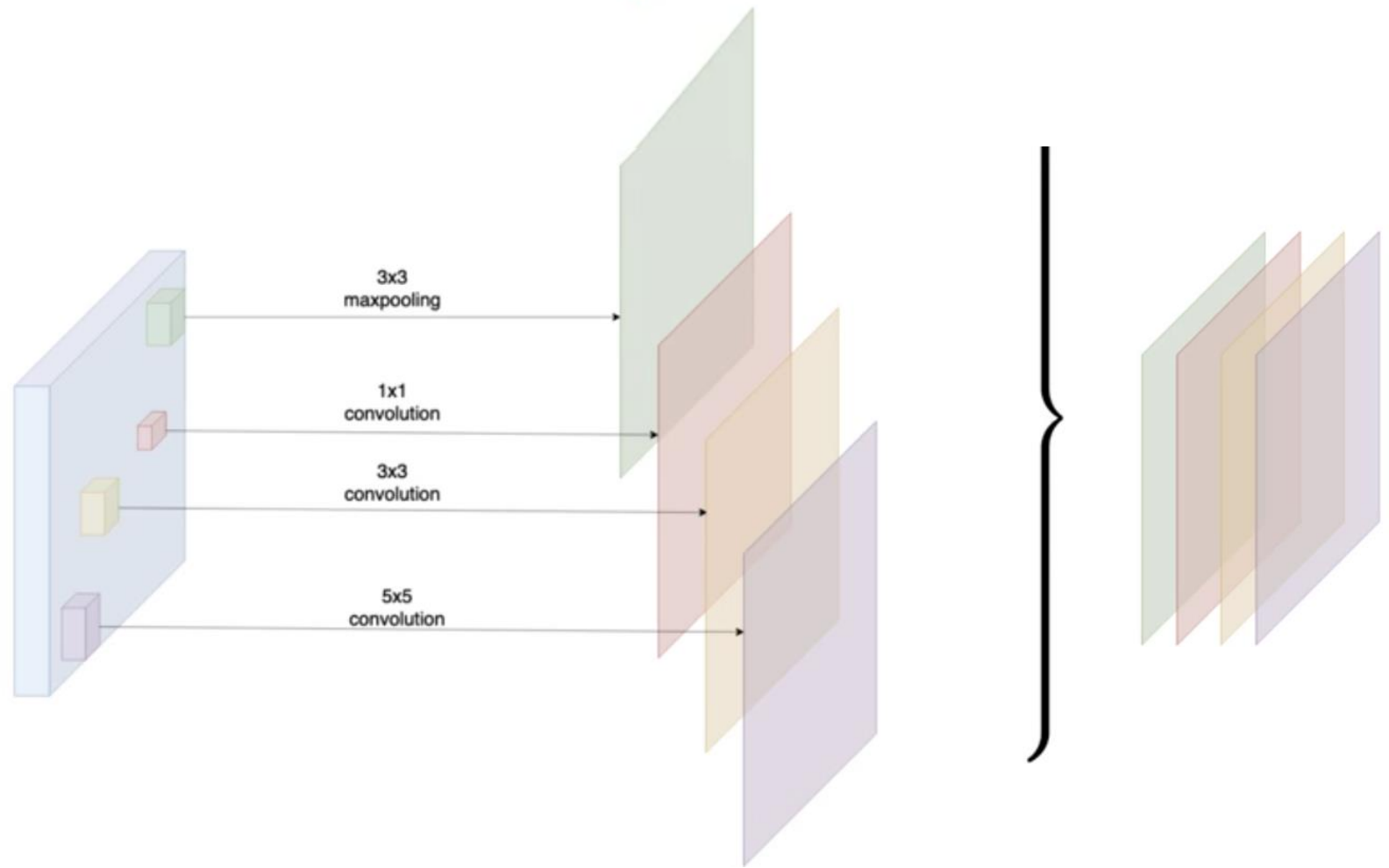*National Institute of Technology*

Sikkim

AlexNet Vs ZFNet

VGGNet

- ▶ Kernel size is 3×3 throughout
- ▶ Total parameters in non FC layers $= \sim 16M$
- ▶ Total Parameters in FC layers $= (512 \times 7 \times 7 \times 4096) + (4096 \times 4096) + (4096 \times 1000) = \sim 122M$
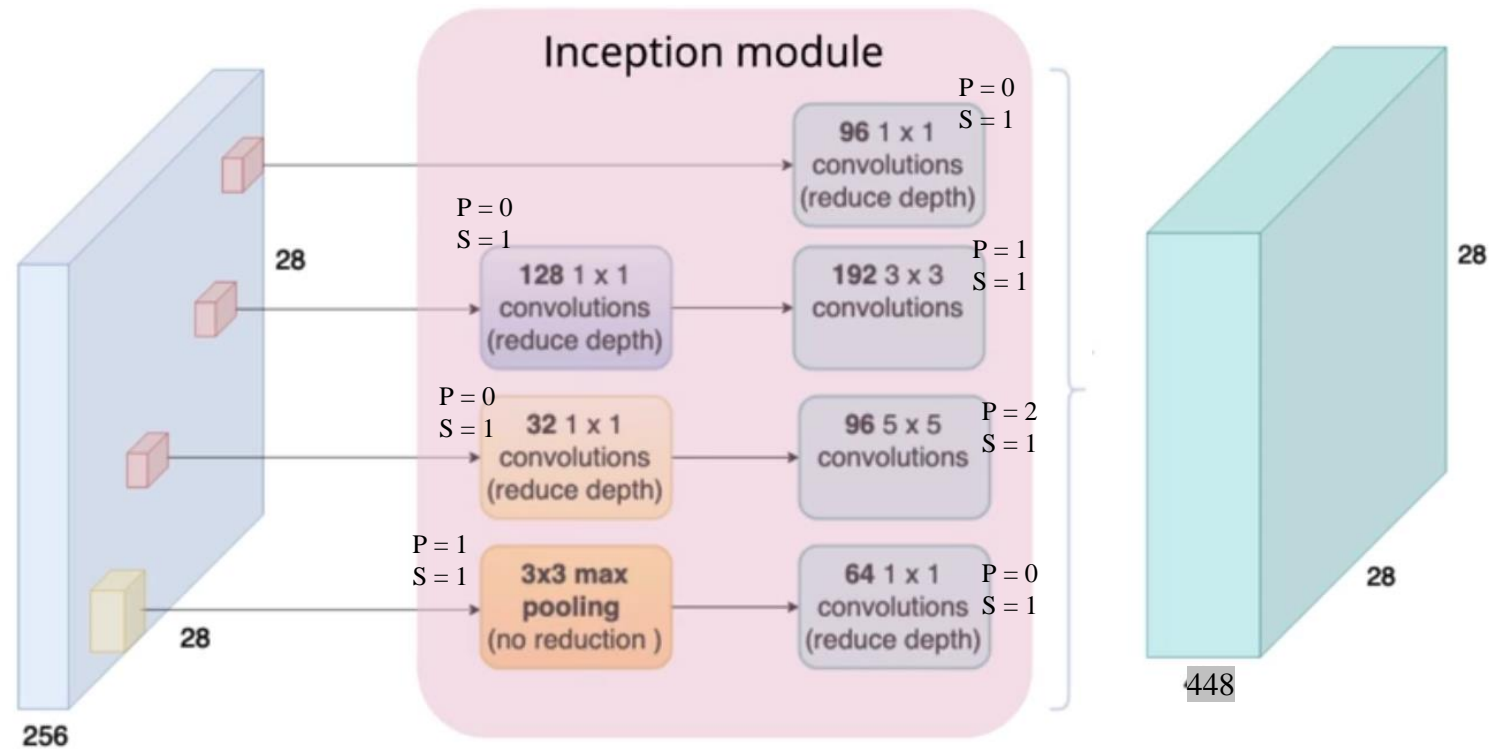- ▶ Most parameters are in the first FC layer ($\sim 102M$)

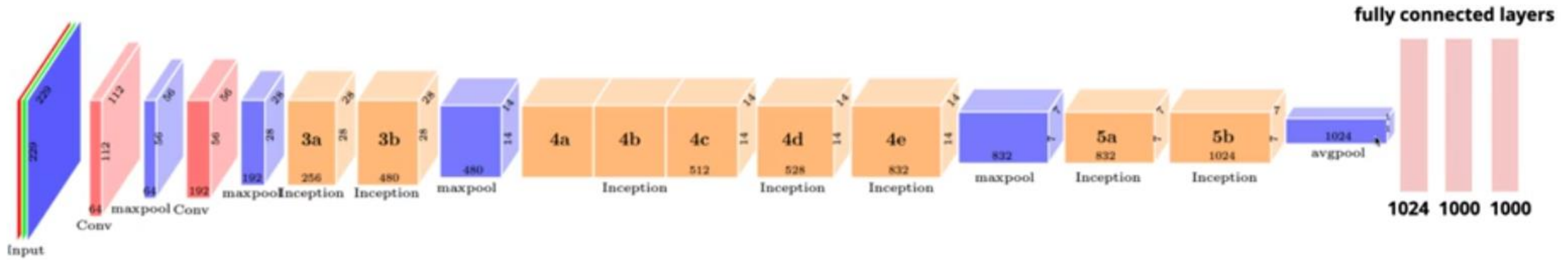# VGGNet

GoogLeNet (Intuition Behind GoogleNet)

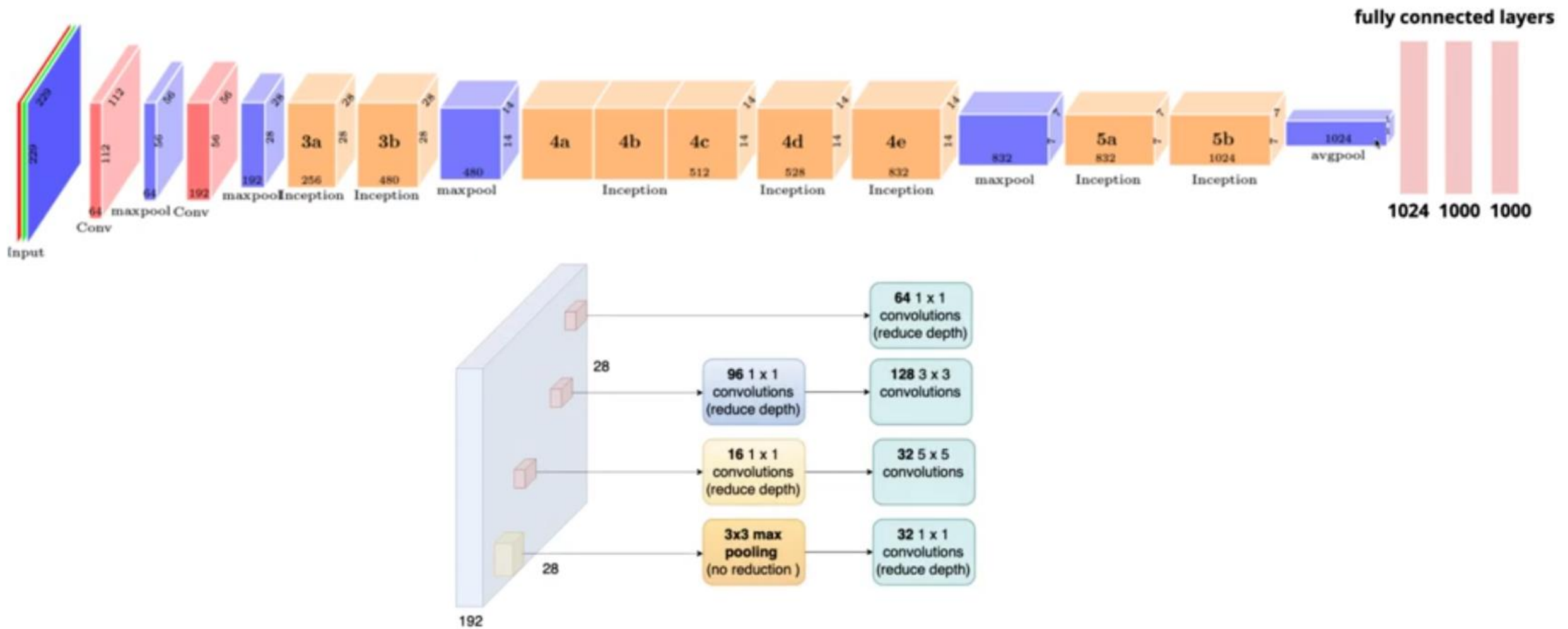# GoogLeNet (Intuition Behind GoogLeNet)
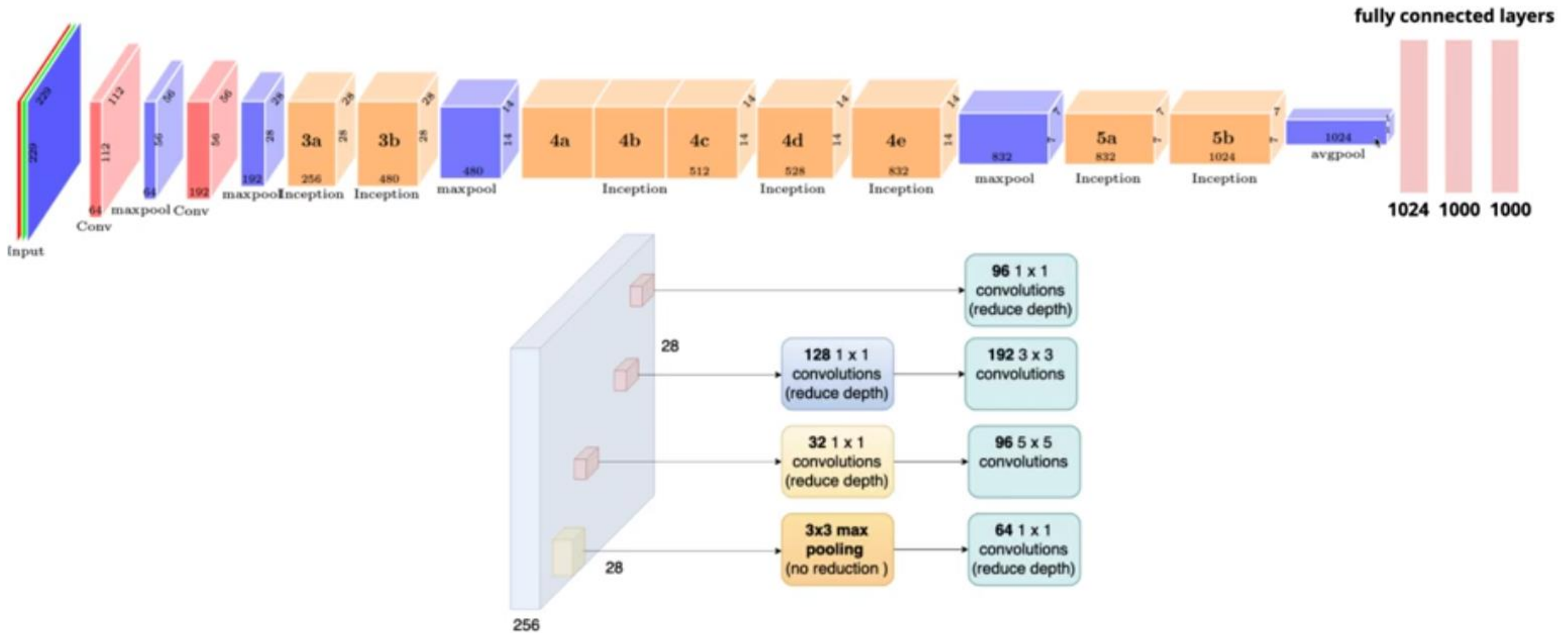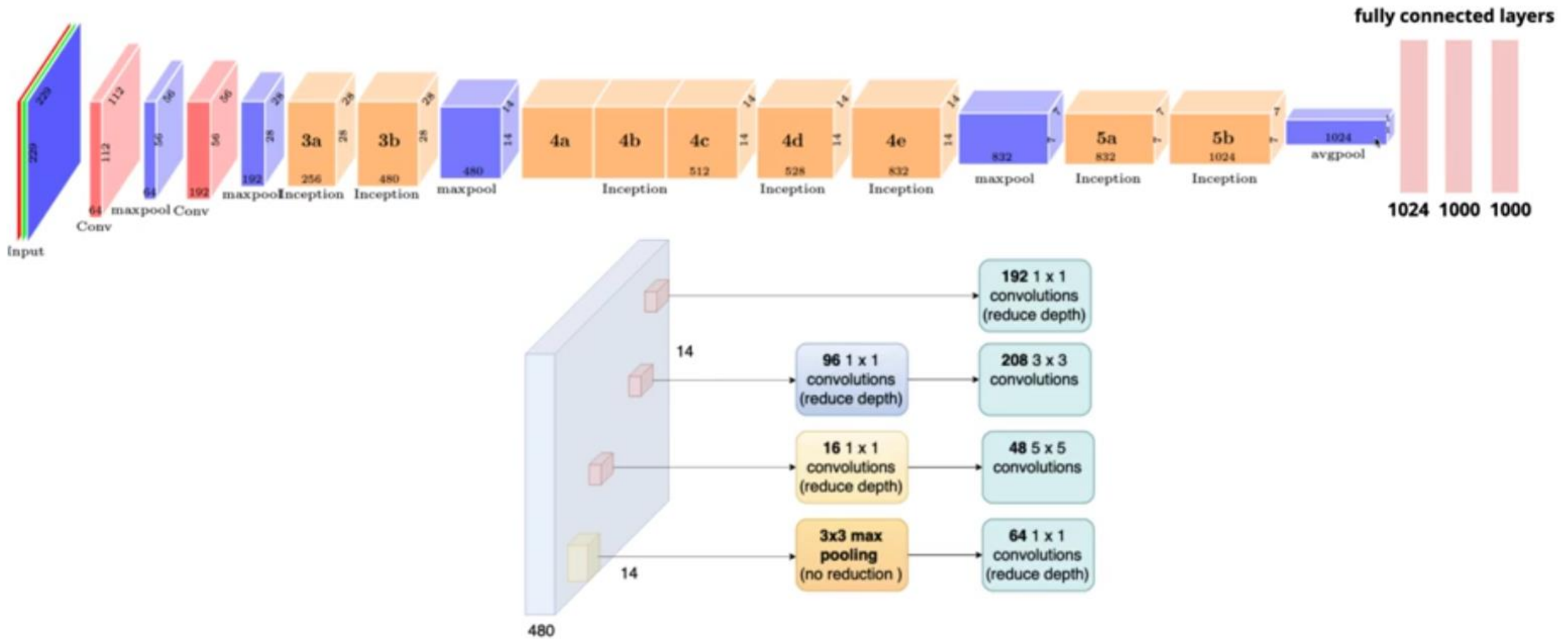
GoogLeNet (What is Inception Module)

GoogLeNet
(What does the full network look like?)

GoogLeNet
(What does the full network look like?)

GoogLeNet
(What does the full network look like?)

GoogLeNet
(What does the full network look like?)

AlexNet Vs GoogLeNet

- ✅ 12x less parameters than AlexNet
- ❌ 2x more computations than AlexNet
- ✅ Improved performance on ImageNet