

### **Dynamo: A Runtime Codesign Environment**

Dr. Heather Quinn, Dr. Miriam Leeser

Northeastern University hquinn, mel@ece.neu.edu

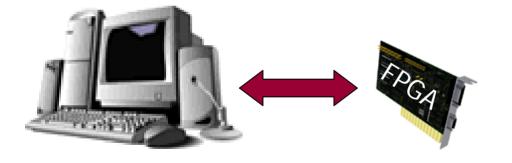
Dr. Laurie Smith King

College of the Holy Cross la@mathcs.holycross.edu

Which implementations to use?

On this Environment:

How to minimize overall latency?



When to use FPGA?

How to change the pipeline or interfaces dynamically?

#### Run this pipeline:





# Predict pipeline latency accurately:

Model includes all overhead costs of using the FPGA

# Implement low latency solutions:

Problem space quickly searched

# Build and execute pipelines at runtime:

User is not impacted



# Dynamo System Overview

Input: The pipeline specification, an image, and a device name

Output: Results from executing pipeline on the image

Libraries: ipBLOC

Model: Pipeline Assignment

