College of Engineering and Computing
ELECTRICAL AND
COMPUTER ENGINEERING
George Mason University.

ECE 555 Group Presentation

Igor Semyonov   Jordan Carnes   Robert Laverne Griffin

George Macon University, Department of Electrical and Computer Engineering

March 16, 2025

Why not C?

It should not be used for production.
See `https://veresov.pro/cmustdie/`

Why Rust?
Type System

Why Rust?
Safety

Here I may include my rust implementation of project 1 and compare it to my C version in both ergonomics, safety, and speed.

Rust and CUDA
Problems regarding shared memory in Rust

Rust and CUDA
Current options

- Rust GPU
- Rust CUDA

Rust and CUDA
Focusing on Rust CUDA

Currently being rebooted and is in active development.
Uses nvidia's nvvm tool which is built on LLVM 7.

What is a compiler?

Description of problems when going straing from source code to machine code.

The problem LLVM solves

Description of LLVM and it's intermediate representation and how this has enabled much easier language development.

NVVM

How NVVM works

Rust CUDA and NVVM

How NVVM is used in Rust CUDA

This is a slide
With a subtitle

This is some text in a column. Could be a figure instead.

- This is a list
- It is an itemized one
- Hence the bullets