PART OF THE TEAM

Will
Project coordinator,
Injury team member

Porter
Sensing and Instrumentation
team member

Prady
Durable-Dummy team
leader
OUR PRESENTATION

01
WHO WE ARE

02
WHAT WE DO

03
WHAT YOU’LL DO
WHO ARE WE

A brief history of the project and its goals
PROJECT GOALS

- Designing and manufacturing a Crash Test Dummy
- Simulate bike-car collisions
- Collect collision data to improve dummy
- Improving bike safety here in Ottawa
- Working with Ottawa Police Service

Years Active: 2013-Present
WHAT DO WE DO

The current project focus, and how we operate
INJURY DUMMY

- TPU 80% infill
- TPU 20% infill
- Breakable bone
- Ballistic gel

- Neck Core
- Breakable Rods
- Breakable Vertebrae
- Flexible Component of Stiffening Mechanism
DURABLE DUMMY

- Designing and Fabrication of Components that won't fail during impact.
- **Material Choices**: Lots of freedom - 3D printed filament or metal components (stock or machined).
- **My Project**: Hip Design (Interface between legs and pelvis components)
- Lots of Engineering Drawings (Fusion 360 or Solidworks)
LAUNCH TEAM

- Responsible for the launch-cart mechanism
- Accelerates bike to riding speed
- Line tracking camera system
- Launch trigger/timing subsystem
- Speed control and braking subsystems
SENSING AND INSTRUMENTATION

- Testing and data management
- Data acquisition systems design
- Mechatronics work
- Lots of exposure to interesting work
- LOTS OF FREEDOM
SENSING AND INSTRUMENTATION - Procedure

- Debrief and read through previous reports
- Decide on what direction you want to take
- Define project requirements
- Design some system outputs
- Design iterations + Testing
WHAT YOU’LL DO

The activities and challenges to accomplish
SOME THINGS YOU’LL GET UP TO:

**DESIGN**
Create parts or systems with CAD Software, coding, researching required components

**MANUFACTURE**
3D Print, machine, construct and assemble your own creations

**TEST**
Test in controlled lab setting, crash test at end of year
THANK YOU!

Enjoy the rest of your day, have a great weekend!