X296 Looking back at the 2017 Semester

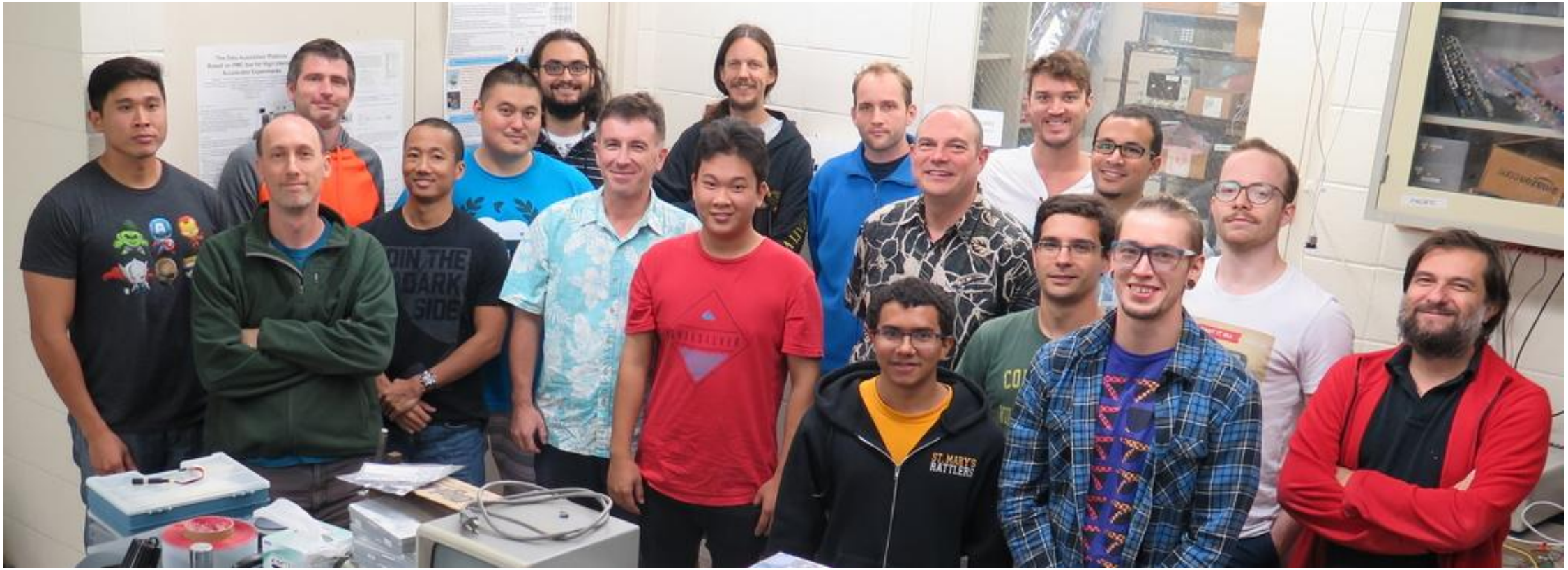
By Cameron Asaoka

Overview

- Beginning of the semester
  - I got to know the people in the lab, who would give their advice at every turn and always told you how they want you to succeed.
  - I learned soldering with James Bynes
  - Initial work on HV Socket w/ Hung Ng
  - Got started with the Raspberry PI
- Mid Semester
  - Finished up working on the HV Sockets
  - Started to really integrate myself with the Raspberry PI
- End of Semester
  - Finish my HV Manual
- The ~Future~
  - Continue work on the HV Module and see its Completion
  - Optimization
  - Work on some other very cool projects in the lab

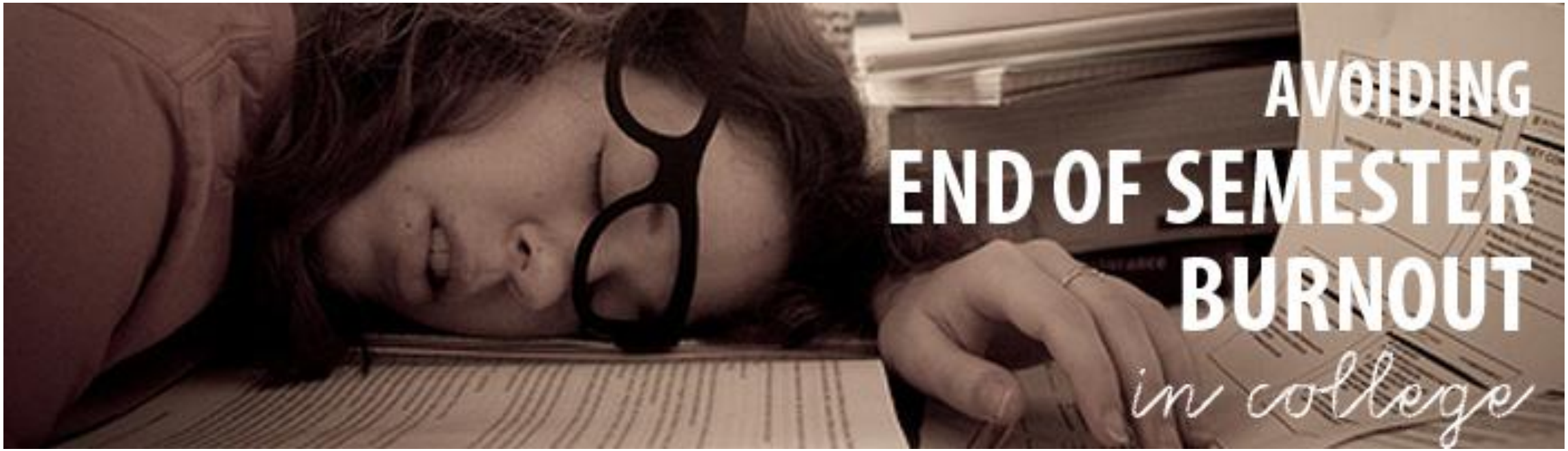
What I started with in the semester

I got to know some of the great people in the Lab



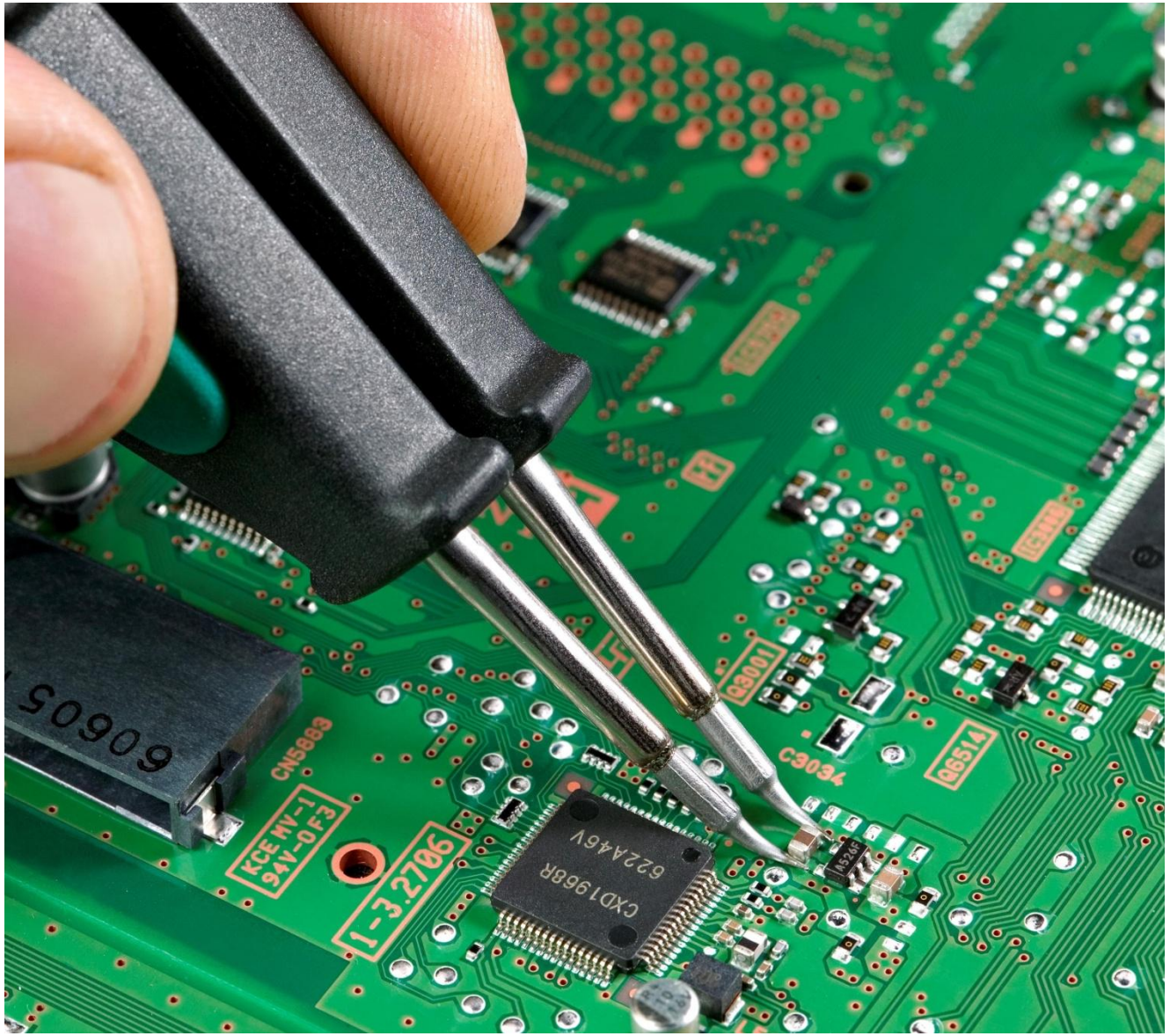
Then Mid Semester happened

Finally here we at now …

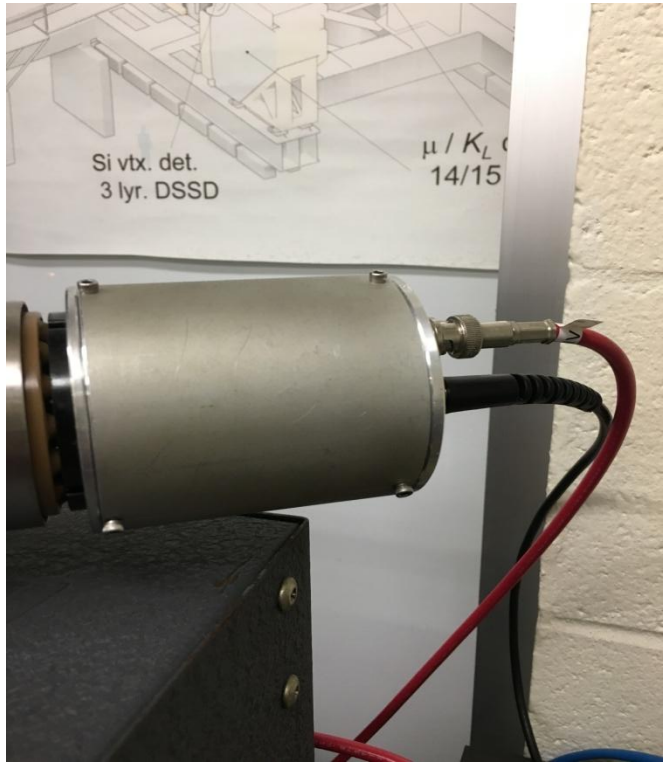


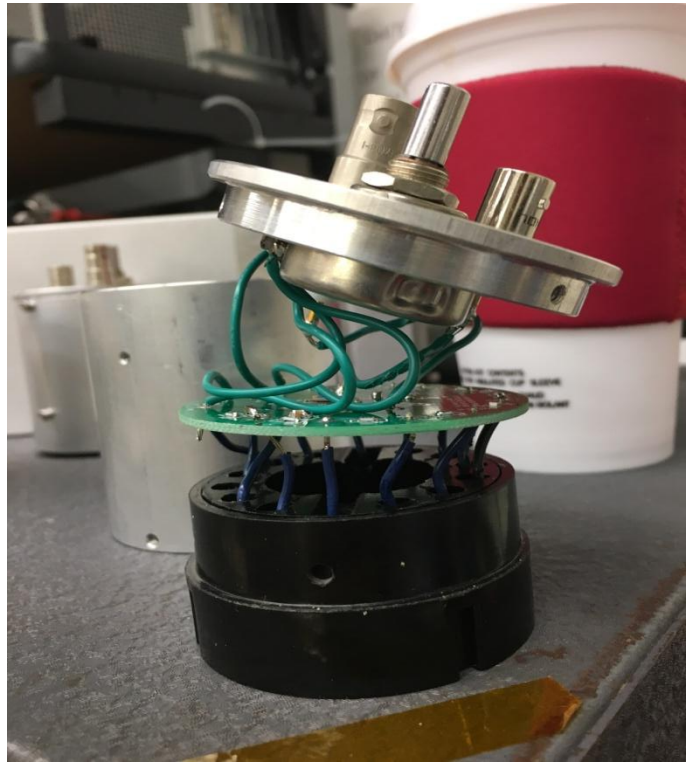
Soldering

I learned some very good skills for the future



HV Sockets





HV Sockets - What I’ve Learned

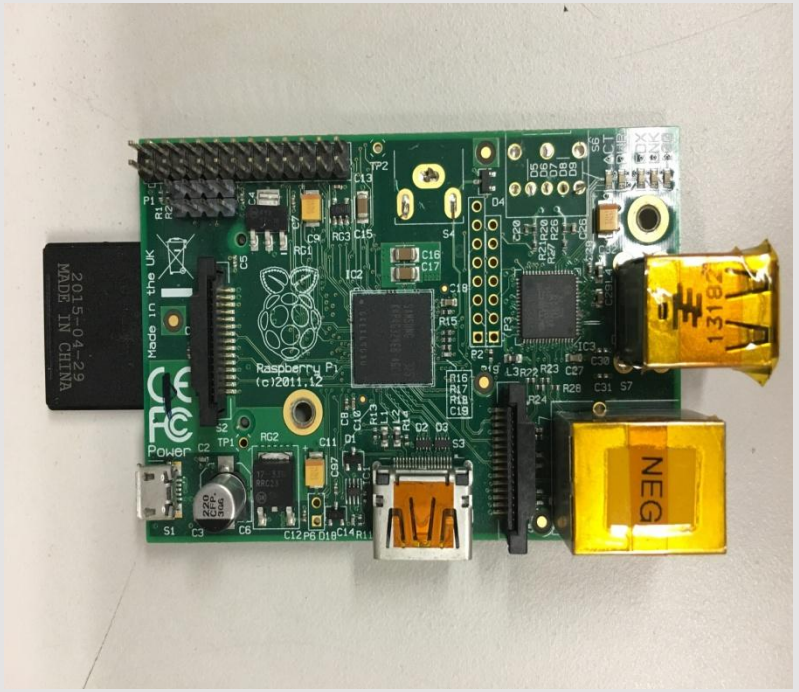
- How construction of the Socket is made
  - i.e. resistors, capacitors, IC’s
- Reading the socket schematic
- How to debug the Socket
- How it works in relation to the Scintillator Block, PMT Board and the HV Module

HV Sockets – Future Development

- Integration with the HV Module (in-development)
- Optimizing the Socket Construction for easier development and fabrication
- Utilization for other projects in the future or concurrent

Getting started with using a raspberry PI

- troductions on RPI
- How to use it
- Capabilities
- Getting introduced to wiringPI
- How to run programs at BOOT! Using rc.local



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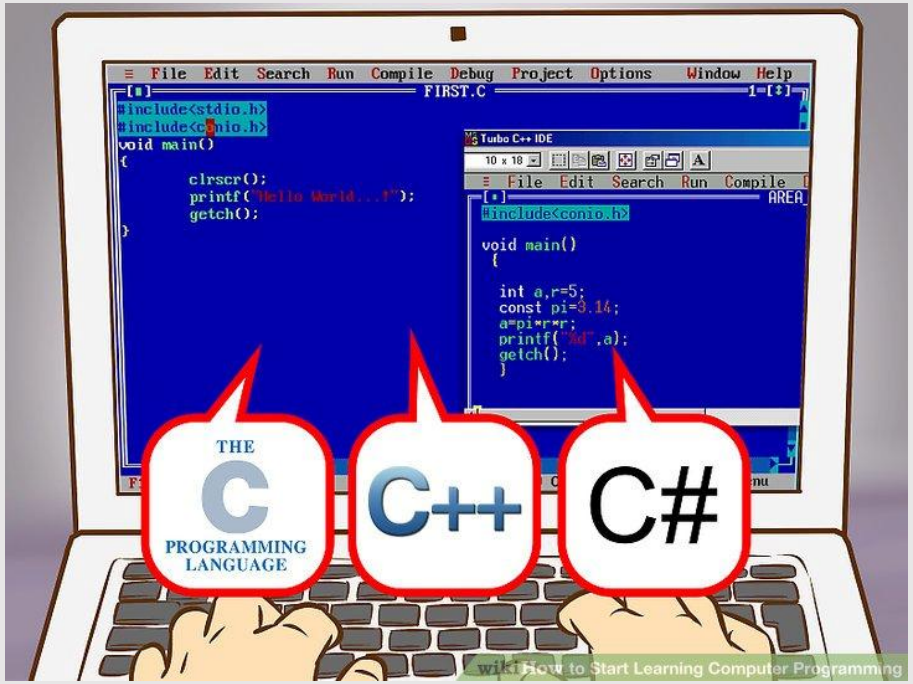
C Programming

- Learned coding techniques
- Learned how to debug code (C currently)



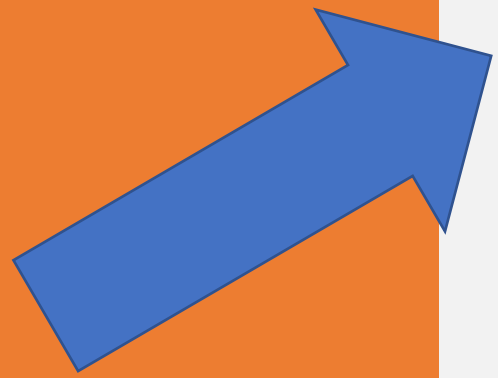
NIM_mod program for HV Module

- Use for HV Module
- C Program

Problems and Future Development

- Problems:
  - Many Bugs related to software function
  - Design Flaws relating to amount of channels
- Future Development:
  - Work in fixing majority of bugs
  - Possible Optimization of code
  - Possible redesign of HV Module
  - Integration in the Muon Detector

Overview



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HV Module - Manual

- Give me one sec to open up manual document

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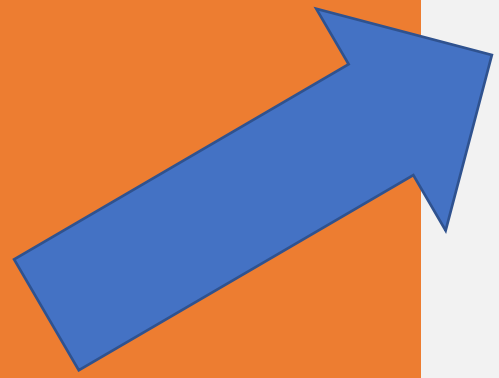

Some things for the future

- Continue working on the HV Module
- Optimize my software on the RPI and continue development aka “The Crunch”
- Work with James hopefully in the near future on other projects
- Maybe get involved with other projects that fit my future

So… on that note

THANK YOU