

## CWSF 2013 - Lethbridge, Alberta



### Alex Tomala

#### MIPE: Microprocessor with Integrated Programmable Execution units

**Challenge:** Information

**Category:** Intermediate

**Region:** Bay Area

**City:** Hamilton, ON

**School:** Cardinal Newman Catholic S.S.

**Abstract:** The problem with most modern microprocessors is that they are designed using a RISC or CISC instruction set which both have their own advantages and disadvantages. I designed and developed a microprocessor that uses configurable logic to allow for a variable instruction set architecture which combines the speed of a RISC processor with the instruction specialization of a CISC processor, which ultimately processed data faster.

#### Biography

My name is Alex Tomala and I am a grade 10 honour roll student at Cardinal Newman Catholic Secondary School. My favourite subjects are Math and Physics, which I find is easy. I wish there were more advanced courses in my school that I could take. I'm a member of multiple clubs which includes: Peer mentors, Peer Tutors, Year End Video, and the Science Olympics team. I also take part in math and computing contests, that I typically rank best in school. I attended BASEF twice (2011 and 2013) and in both cases I won a silver medal as well as many special awards (6, and 9 respectively). My passion for Science and Technology was fostered at a young age when I was interested in space. That interest developed into Math, Physics, and Computers. In the future I hope to study physics in university and receive a doctorate in that field. I am inspired by John von Neumann, as he made many contributions in various fields, which is what I want to do.

#### Awards

#### Value

Excellence Award - Intermediate - Silver Medal Sponsor: Youth Science Canada	\$300
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
Total	\$2 300

