

Samuel Weatherhog

Objective

I currently hold honours degrees in engineering (class IIA) and science (class I) with majors in electrical engineering and mathematics. During my mathematical studies I focused heavily on number theory, abstract algebra and discrete mathematics. I also took advanced courses in analysis and geometry to broaden my mathematical knowledge base. My final year thesis topic was the Birch and Swinnerton-Dyer conjecture which led to a great interest in algebraic geometry, modular forms and number theory. My objective is to gain a deep understanding of these topics and to contribute to the body of knowledge in these areas.

For the past year, I have been working for the engineering and construction company Bechtel on their APLNG project. During this time I have used and extended my mathematical knowledge firstly through personal study (mainly in algebraic number theory and complex multiplication), and secondly through the solution of complex problems encountered on the jobsite. In the latter case, one particular problem was solved by researching a paper of Martello and Toth to implement an algorithm for the solution of the multiple knapsack problem. This vastly improved the efficiency of cable usage on site.

Experience

1/8/2015 – Current

University of Queensland, Brisbane QLD

Engineering & Mathematics Tutor

- Tutoring undergraduate mathematics and engineering students
- Developing lesson plans in order to optimize the learning experience of the students
- Marking of exams and assignments to provide constructive feedback of student work

20/1/2014 – 31/7/2015

Bechtel Australia - APLNG Construction Project – Curtis Island, QLD

Electrical Field Engineer

- Resolved technical issues for the project in order to meet client specifications and local standards
- Designed temporary power supplies for construction, commissioning and start-up purposes
- Identified design deficiencies and purchased required material to rectify these issues
- Participated in site acceptance testing and operator training for the ship-to-shore link system and the ship berthing systems
- Developed cable management tools including an algorithm to optimally utilise the available cable on the job site. The algorithm solved a version of the 0-1 multiple knapsack problem.
- Coordinated with the procurement and design engineering teams to identify potential cable shortages well in advance of construction requirements
- Coordinated with construction to develop suitable work packages to support planning and efficient construction and also ensured that included drawings and documents were current
- Gained extensive experience with the access-based SetRoute database (including the use of SQL filters, bulk data loader, jobsite feedback, and external reporting functions)
- Developed an automated spreadsheet to effectively and efficiently report the weekly installed quantities to support project controls reporting

1/2/2013 – 30/11/2013

University of Queensland, Brisbane QLD

Engineering & Mathematics Tutor

- Tutoring undergraduate mathematics and engineering students
- Developing lesson plans in order to optimize the learning experience of the students
- Marking of exams and assignments to provide constructive feedback of student work

27/6/2011 – 22/7/2011 and 28/11/2011 – 17/2/2011

Bechtel Australia - Hay Point Expansion, Mackay QLD

Electrical Field Engineer

- Provided quality control for work performed by subcontractors
- Organised an update of ESP's which involved coordinating meetings with site and Brisbane offices as well as updating the physical records at site
- Assisted in a crane and rigging audit of one of the subcontractors
- Prepared Requests for Information (RFI's)
- Prepared numerous Field Change Documents (FCD's)
- Created an automated spreadsheet so the FE team could keep track of FCD's, RFI's etc. that had been entered into PTR and created a business case based on the results
- Performed a quality inspection of the paint and coating of marine piles and prepared a report detailing the findings
- Familiar with several SWPP's
- Gained a good overview of the construction management process

13/11/2010 – 11/2/2011

Bechtel Australia - Frieda River PFS, Brisbane QLD

Electrical Engineer

- Assisted in the preparation of the electrical load list.
- Prepared equipment specifications and data sheets for bid.
- Developed a safety plan and maintained a high standard of safety.
- Used E-Tap to simulate some basic power systems.
- Gained extensive experience programming in VBA for Excel.

2006-2012

Gymnastics Queensland

Gymnastics Coach & Judge, Brisbane QLD

- Lesson preparation before classes.
- Setting up safe equipment prior to the beginning of each class.
- Teaching young recreational gymnasts basic gymnastic skills
- Judging gymnastics competitions of all levels.
- Accredited Level 3A judge.
- Maintain knowledge of current rules and regulations regarding competitive gymnastics.

Education

Aug, 2015-Current

University of Queensland, Brisbane QLD

Master of Philosophy (Mathematics)

2013-2014

University of Queensland, Brisbane QLD

Bachelor of Science (Honours)

- Received Honours Class I
- Received Dean's Commendations for each Semester
- Overall GPA 6.75

2008 – 2012

University of Queensland, Brisbane QLD

Bachelor of Engineering (Electrical) / Bachelor of Science (Mathematics)

- Overall GPA 6.667
- Received Honours Class IIA
- Thesis project published in 2013 IEEE Power and Energy Society General Meeting
- Awarded the UQ Excellence scholarship
- Received seven Dean's Commendations for High Achievement

2003 – 2007

Corinda State High School, Brisbane QLD

Secondary School Education

- Received an overall position (OP) of 1
- Awarded Dux of Corinda State High School
- Received subject prizes for mathematics C & Information Processing and Technology
- Graduated with academic distinction (6 VHA's)
- Completed MAB111 (Mathematical Sciences 1B) and MAB112 (Mathematical Sciences 1C) at Queensland University of Technology and received a 7 for both subjects. (Equivalent to Calculus & Linear Algebra I and Multivariate Calculus & ODE's at University of Queensland)
- Received a service award for service to the school in the area of leadership of the student body
- Passed Grade 6 AMEB violin practical examination
- Passed Grade 2 AMEB theory examination with honours

Sporting Achievements

- Competed with the Australian team at the 2008 New Zealand National Gymsports Championships (received individual Gold medal on Pommels and Bronze Medal on Floor; Team Silver medal overall)
- Competed with the Queensland state team at the 2008 Australian National Championships (received individual Gold medal on High Bar, Bronze medal on Floor and Bronze medal on Vault; Team Gold medal overall)
- Competed in the 2008 Queensland state championships (received individual Gold medal overall, Gold medal on High Bar, Gold medal on Floor, Gold medal on Pommel and Gold medal on Vault)

References

Written references available on request.