

# City West Water

Chris Jones

Data Analysis Coordinator, Community Programs

Customer, Community and Environment Department



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# Qualifications & Career Path

## Qualifications

- LLB(Hons) (Adelaide University)
- PhD (University of South Australia)
- GDLP (Law Society of South Australia)

## Work

- National Transport Commission (Policy)
- Monash University (Epidemiology & Public Health)
- Currently: Data Analysis Coordinator, CWW



# Who are City West Water?



One of three Victorian Government owned retail water businesses in metropolitan Melbourne.

Drinking water, sewerage, trade waste and recycled water services to customers in Melbourne's CBD, inner and western suburbs.

Around 100 billion litres of drinking water to our customers per annum (and sewage and trade waste to Melbourne Water's Western Treatment Plant in Werribee or our Altona Treatment Plant)



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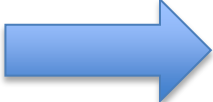
# Community Programs

- ^ Water Efficiency
- ^ Data Forecasting, Modelling and Analytics
- ^ Vulnerable Customer Programs
- ^ Greening the West
- ^ Community & Social Involvement



# What sort of things do I do?



Context: Team engaged in a wide range of activities, not as comfortable with numbers  “translator” role

## Key tasks

Water consumption monitoring and reporting

Water security planning

Predictive water demand behaviour modelling

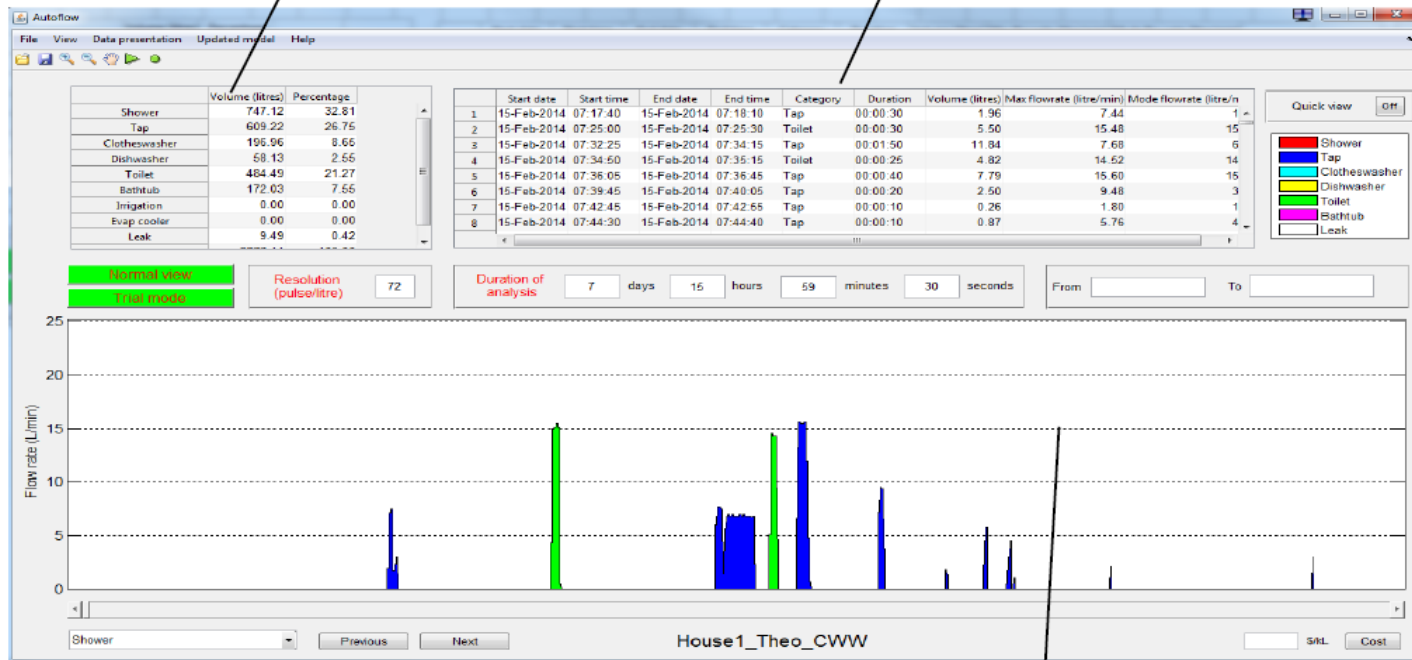


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# Autoflow

End-use break down table displays the consumed volume and corresponding percentage of each category

Summary table of all classified events



Search function to go to next or previous event of the selected category

Name of the property being analysed

Main interactive chart

Cost break-down



# Career Opportunities (Water sector)

Traditional: engineering, finance, asset management and operations roles

Emerging: analytic roles including...climate science, integrated water cycle modelling, satellite image processing, social sciences, data mining (e.g NLP for customer service reps interactions with customers)



# Skills and attributes

Academic competence in a numerate field at a minimum

- Higher degrees good, but having a PhD/Doctorate may require drawing extra attention to practical skills

Flexibility

- demonstrated ability to apply theory to a business problem
- ability to apply skills across a range of platforms (Some businesses' analysis tool is Excel!)

Presentation skills

- to all levels of audience
- literacy and communication are highly rated





# Tips – finding a job

Get your foot in the door. Experience is the key!

- E.g. Summer programs (we will be advertising around July – go to our careers page if you are interested)
- Competitions? (Kaggle etc)

You can never be too prepared for an interview

- Applications that are clearly generic will likely end in the bin
- Don't let knockbacks drain your confidence! Use them as a way to learn, ask for feedback etc

No man (or woman) is an island

- Working with others is inevitable. Learn to play nicely.



# Tips - career

- Don't be afraid to try different jobs, fixing on that one job/career might not end up being what you think it is when you get there
- ...but don't hop around too much!
- Opportunities abound, but often can't be planned – be ready when they arise
- Know your own values – what are the must haves/must not haves.
  - E.g. There is plenty of work for mathematicians in the gambling industry. Would you be OK with that?



# Thank You

E: [cjones3@citywestwater.com.au](mailto:cjones3@citywestwater.com.au)

T: 03 9313 8906



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# City West Water

Alysha Edmonds

Data Scientist

Operations Research, Engineering Department



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# Qualifications & Career Path

- Bachelor of Science (Mathematics)
  - RMIT University 2009 - 2011
- Master of Statistics and Operations Research
  - RMIT University 2012 – 2014
  - Awarded the Master of Statistics and OR 2014 prize
- City West Water, Operations Research (OR) section
  - Vacation placement      Dec 2013 – Feb 2014
  - Student Researcher      Mar 2014 – June 2014
  - Data Scientist              Dec 2014 – current



# What we do in Operations Research

Support the Engineering Department's Sections in:

- Developing analytical tools
- Improving efficiency and effectiveness
- Modelling systems
- Predictive analysis
- Managing risk

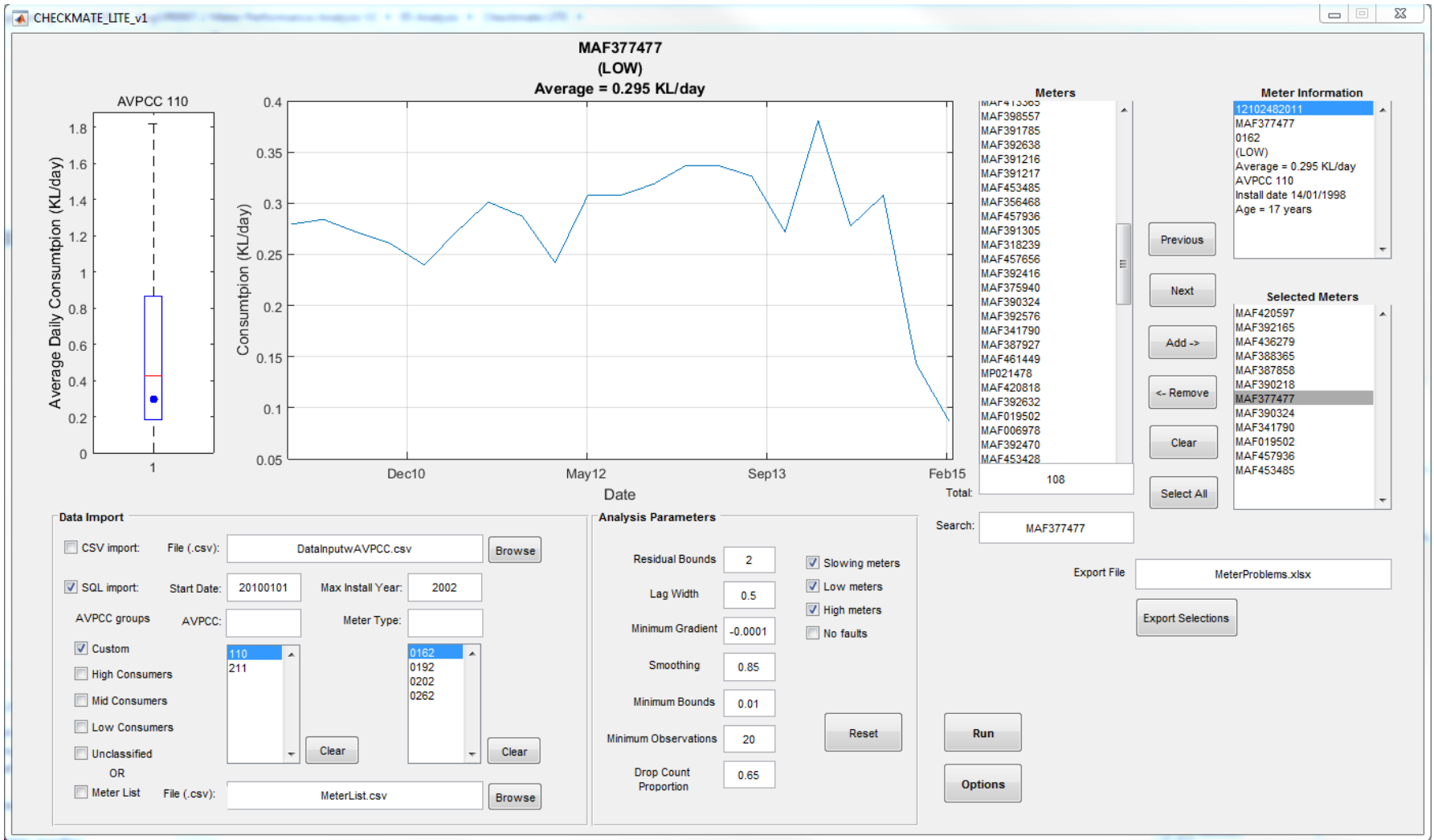


# What does a Data Scientist do?

- Work collaboratively in a team
- Data preparation
- Think laterally and analytically
- Programs:
  - Minitab, Matlab, R, SQL, Excel (pivot tables, graphs)
- Model testing
- Report and present any results
- Variety of tasks
  - Every day is different!



# Project – CheckMATE Lite





# Career advice



- Opportunities for further learning:
  - Industry/Vacation placements or projects
  - Networking
- Resumes & job applications:
  - Spend time on them
  - STAR model (situation, task, action and result)
  - University careers groups, online research
- Interviews:
  - Research the role and company
  - Practice makes perfect



# Thank You



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