Towards and Beyond a PhD

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Two roads diverged in a yellow wood,
And sorry I could not travel both
And be one traveler, long I stood
And looked down one as far as I could
To where it bent in the undergrowth;

Then took the other, as just as fair
And having perhaps the better claim,
Because it was grassy and wanted wear;
Though as for that the passing there
Had worn them really about the same,

And both that morning equally lay
In leaves no step had trodden black.
Oh, I kept the first for another day!
Yet knowing how way leads on to way,
I doubted if I should ever come back.

I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I —
I took the one less traveled by,
And that has made all the difference.

—Robert Frost
when you come to a fork in the road, take it

—Yogi Berra
My Road

- **1992-1997:** Double degree in Science (Math & Comp. Sc.) and Electrical Engineering from The University of Sydney
- **1997-1998:** Masters of Science in Electrical Engineering from Stanford University
- **1998-2005:** Industry startups
  - Polartecnics then Dilithium Networks then Sensory Networks
- **2005-2010:** Back to Stanford for PhD in Electrical Engineering
  - But my PhD was actually in Computer Science
- **2010:** Joined ANU
My Road

- **Course Work**: 2005-2006
  - First paper rejected

- **Research**: 2007-2008
  - First paper accepted
  - First journal paper
  - Conference talks

- **Thesis Writing and Job Search**: 2009-2010
  - First paper accepted
  - First conference talk
  - A few more papers
  - Even more papers
  - Finalised supervisory panel

- **Final**: 2012
  - Ariella
  - Bronte
  - Hana

Visits, talks, grants
PhD Comic

—Jorge Cham (http://www.phdcomics.com)
The illustrated guide to a PhD

—Matt Might (http://matt.might.net/)
Your Road May Be Different

Years in PhD
- First Year
- Second Year
- Third Year

Gender
- Male
- Female

Research School
- Engineering
- Computer Science
Your Road

• You will have (many) late nights
• Your papers will be rejected
• Your code will have bugs
• You will get frustrated and lose motivation
• Your work will be criticised (take the gift)
• You will be challenged and asked difficult questions
• You will lose source code (use revision control!)

But remember, you took the road less travelled by. **Persist.** Don’t lose sight of the big picture. You will also have fun and contribute to science.
Some More Advice

• Develop good habits
• Publish early and regularly (not frequently)
  • Quality and impact are more important than quantity
  • My former postdoc used to say “a good paper is one that people can read in the toilet”
• Read a new paper everyday
• If you’re stuck start writing; then re-write; ...
• Have plans and discuss them with your supervisor
• Teach your supervisor something new
  • you are ready to graduate when you know more about your topic than your supervisor does
Life Beyond the PhD

- Academia (university)
- Industry or government research lab
  - NICTA, CSIRO, Google, Microsoft, Facebook, ...
- Start-up company
- Industry job
- Another PhD

- What you want to do after your PhD may influence how you approach your PhD
  - talk to your supervisor
Before I learned the art, a punch was just a punch, and a kick, just a kick. After I learned the art, a punch was no longer a punch, a kick, no longer a kick. Now that I understand the art, a punch is just a punch and a kick is just a kick.

—Bruce Lee