SUCCEEDING WITHOUT A PLAN

Saying <u>Yes</u> to Opportunities

UWTRONS

Congratulations!

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- ▶ You magically have all the answers now!

- ► Get a job?
- ► Grad school?
- ► Travel?
- ► Do something completely unrelated?

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- ▶ Travel?
- ▶ Do something completely unrelated?

It's okay to not have a plan

- ▶ Graduated with Tron16
- ▶ Working at Applied Brain Research
- ▶ Doing a part-time MASc. in ECE

Applied Brain Research is a startup out of the Computational Neuroscience Research Group at UW.

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- ▶ Collection of PhDs with backgrounds in neural networks,
  robotics, sortware, etc.
- ▶ Developing new applications in adaptive robotics, machine
  vision, language processing, etc.
- ▶ Maintain Nengo, a *neural compiler*

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What is *neuromorphic*?
- ▶ Alternative to classic Von Neumann architecture
  - ↪ Inspired by the brain
- ▶ Several neuromorphic chips exist, but aren't accessible
  - ↪ SpiNNaker, Braindrop, True North, Loihi

I have the fancy job title of Neuromorphic Engineer.

What do I do?
- ▶ Work with FPGAs to design pseudo-neuromorphic chips
    - ↪ Low cost, available commercially
- ▶ Connect FPGA implementation to Nengo frontend
    - ↪ Easy to use

I'm also working with Dr. Nachiket Kapre in the Waterloo Configurable Architectures Group.

- ▶ I'm lucky that research at my job is my thesis work (mostly)
- ▶ Hoping to finish this summer

How did I get here without a plan?

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Engineering

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More mechanically inclined, I've never coded in my life...
...but mechatronics sounds super interesting, so why not?

Essentially no elective for the first 3 years.

- ▶ Awesome, no decisions!

Co-op placements

I was all over the place, no idea what I wanted

- ▶ Heavy industry
- ▶ Medical
- ▶ Automotive
- ▶ Microelectronics

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This showed me what I didn't want to do

Alright, time to try some new topics

- ► Machine Learning
- ► Neural Networks
- ► Philosophy

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- ► Neural Networks
- ► Philosophy

I actually attended class for these! This is probably the right direction.

Actually more like March

- Planned some trips
- Had some interviews
- Considered non-engineering work

AFTER UNDERGRAD

Actually more like March

- ▶ Planned some trips
- ▶ Had some interviews
- ▶ Considered non-engineering work
- ▶ Still no real long-term plan

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Why not? I like the class – say yes to opportunities!

- ▶ Interesting research area
- ▶ Not a position that will get boring
- ▶ I like the people
- ▶ I have no idea what I'm doing

I accepted the job and began working with FPGAs, despite directly saying hardware is my weakest area!

I quickly figured out

- This is hard
- Epiphany – that's what that class was about!
- I have no idea what I'm doing

1 Year Later

I have ~~no~~ *some* idea what I'm doing

I managed to make some progress and have some basic hardware functional!

How did this happen?

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Basically,

- ► Dr. Kapre was a new professor at UW
- ► He gives a seminar uncannily similar to my work
- ► Say yes to opportunities!
    - ↪ Oops I'm now doing a master's degree now?

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- I have a job I didn't know existed
- Working in a subject I barely understood in school
- Amongst people far smarter than me
- And, somehow I'm back in school

- Your dream job might not exist yet!

Advice from me

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- ▶ Start saying yes to opportunities!

Advice from me

- ▶ Your dream job might not exist yet!
- ▶ You don't need to have a concrete plan
    - ↪ but you should have a general direction
- ▶ Start saying yes to opportunities!
    - ↪ even if you're unsure or underqualified

Advice from my father

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Advice from my father

Ask yourself three things:

1. Do you like the people you work with?
2. Are you engaged in your work?
3. Do you have enough money to be comfortable?