Thoughts on Finding Your Way

 $\bullet \bullet \bullet$

Casey Kennington, PhD YRRSDS 2018



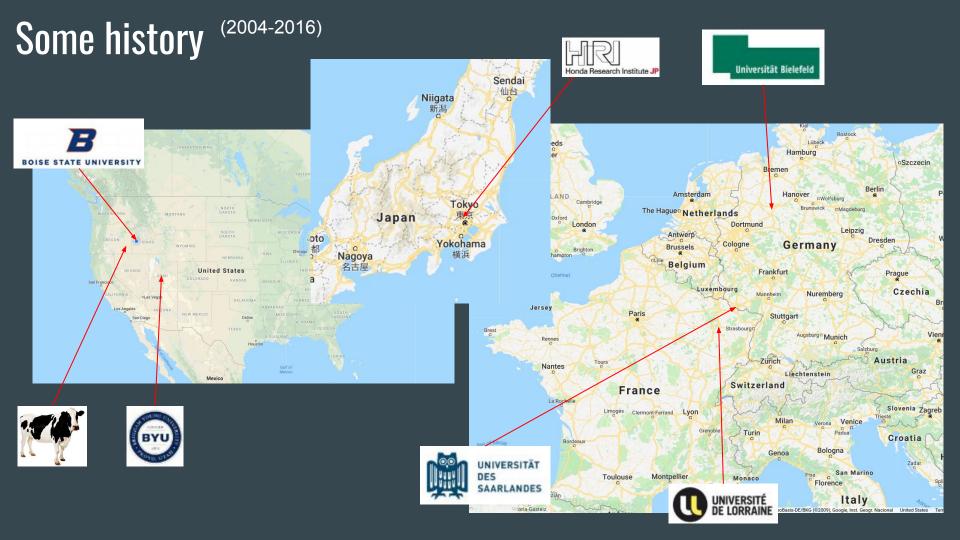
BOISE STATE UNIVERSITY



ca·ree	r						
Origin							
LATIN	ITALIAN	FRENCH					
carrus wheeled vehicle			→ career mid 16th century				
mid 16th century (denoting a road or racecourse): from French <i>carrière</i> , from Italian <i>carriera</i> , based on Latin <i>carrus</i> 'wheeled vehicle.'							
т	ranslations, v	word origin, a	and more definitions				

"[I]t's worth recognizing that there is no such thing as an overnight success. You will do well to cultivate the resources in yourself that bring you happiness outside of success or failure. The truth is, most of us discover where we are headed when we arrive. At that time, we turn around and say, yes, this is obviously where I was going all along. It's a good idea to try to enjoy the scenery on the detours, because you'll probably take a few." -Bill Watterson







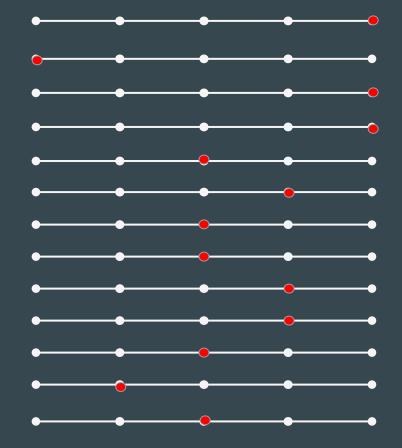
When you wake up in the morning, you look forward to engaging in your **day-to-day** work.

Making Decisions: What is important to you?

- Autonomy?
- Well-defined projects?
- Quiet thinking time?
- Learning new things?
- Individual / Team work?
- Teaching and mentoring?
- Theory? Practical products?
- Open source software?
- Location? Culture? Cuisine?
- Family?
- Recreation?
- Institutional Name Recognition?
- Pay? Cost of living? Advance opps?

Making Decisions: What is important to you?

- Autonomy?
- Well-defined projects?
- Quiet thinking time?
- Learning new things?
- Individual / Team work?
- Teaching and mentoring?
- Theory? Practical products?
- Open source software?
- Location? Culture? Cuisine?
- Family?
- Recreation?
- Institutional Name Recognition?
- Pay? Cost of living? Advance opps?



Industry or Academia? Academia positives

- Teaching
- Mentoring
- Research
- Colleagues
- My own office (with a door that can lock and a whiteboard)
- Shower
- http://www.pgbovine.net
- Industry to Academia: <u>http://matt-welsh.blogspot.de</u>

'merican 'cademics: general information

• Salary is for 9 months

- You can of course spread that out over the 12 months
- You can fill in "summer salary" with grants
- Summers are great (3+ months without teaching requirements)
- Computer science departments are hiring
 - Partly because industry keeps taking established professors in various fields
- Setting up a research group takes a lot of time
- Getting your first grant can take a lot of time (and luck?)
- Institutional Review Board (IRB)
- Tenure

Academia: Negatives

- Grant Proposals (differs depending on your country)
- Meetings ("service")
- "In academia, half of your time is dedicated to teaching, half to research, and half to departmental service." -David Schlangen
- Oh, the academia vs. industry question! I decided a couple years ago that I didn't want to stay in academia. For one, I don't enjoy teaching or mentoring. Also, publishing drives me nuts not writing papers, which I'm totally happy to do, but just the ways that publishing as a primary goal drives and impacts research in negative ways... quantity over quality, overly complex approaches that look nice on paper, solving of non-problems, etc. (I think this is worse in robotics than other fields because robots are further away from real applications.) Also, I really like and value engineering, so it's sad to me when all my systems are sloppily thrown together because engineering effort isn't core to the research problem so it can't be justified. So it's hard to imagine I could ever achieve lifelong fulfillment through the professor route. The grass is always greener, but overall I felt disillusioned enough that I was ready to take the one-way trip to the other side.

Life post-PhD: What should I do now to prepare?

- Keep track of potential places where you might want to work and network
 - Industry: Google, Apple, Amazon, Microsoft, Nuance, HRI, Interactions, etc.
 - Academia: Edinburgh, Heriot-Watt, KTH, Gothenburg, Amsterdam, USC, Saarland, etc.
- Option 1: find openings and send your CV everywhere
- Option 2: find exactly what you want and work for it
 - \circ I tried this for Boise State and it worked (warning: survivorship bias)
- Practice writing (more on this later)
- Publish papers, do an internship (if possible)
- Publish (readable, usable) code on GitHub
- Organize yourself (Trello, Asana, others)
- Besides ML and DL: learn enterprise web dev (Heroku, AWS, etc.)

Writing (your dissertation)

- (3? 6?) Months before writing: start an outline
 - Always update and edit the outline
 - Have your advisor give feedback
- Read a lot.
 - \circ I dug into philosophy a lot.
 - "Reading those turgid philosophers here in these remote stone buildings may not get you a job, but if those books have forced you to ask yourself questions about what makes life truthful, purposeful, meaningful, and redeeming, you have the Swiss Army Knife of mental tools, and it's going to come in handy all the time." -Bill Watterson
- When in doubt, write, then edit
- Write a chapter draft, let sit and return to it later

	uction					
	(with ample examples)					
	The Problem: Resolving Defin					
	The Setting: Situated Dialogue					
0	Motivation					
	face-to-face conversation is basic and primary (Filmore)					
		 definite descriptions are common in langauge (Poesio & Vieira) 				
	interactive dialogue is a good place to look at reference kow hanging full, perceptually important					
			age by means of reference, pointing,			
	interactive dialogi					
0	Aims of Thesis	 all up the problem in a probabilistic transacrit 				
	 model resolution representing the workd vs. experienting the language 					
	 fit the model into 	 Backgound incernental Spoken D alogue Systems Spoken dialogue systems 				
	 implement and ev 	 Imprement and ex 				
 Outline 			interaction in situated dialogue			
	round					
	Background: NPs and Re	3	 U can be words, regards, wereintic rep. (RMRS, DyrS yr) 			
	 Reference and N 	- Assumption	 unfied protouna, del desc, debia simple 			
	 Mill, Frege 	 for 	 abortominar? 			
	 Saussure 	· don	 B has to come from somewhere 			
	 Strawson: 					
	use an ex	 only 	 Can only handle intersective conspection 			
	 Kripke - si Donnellan 	 obje 	 A little wask when it comes to uncertainty in the world 			
	 Kaplan (d) 	 right 				
	Nunberg (only Ctas 	 A more robust discriminative approach: WACm 			
	 Austinian 	· Gris	 more robust to roise W 			
	 Camap (p) 	· City	 can handle more complex relations that use lands area. 			
	 We want t 	 ent 	 projects only ecremented by words 			
	 Meaning [where does this fit in the world of semantics?			
	De re rea:	 What have other p. 				
		 how does t 	Condusing Remarks			
	 Not conce intension 	 anothey gri anothey include 	 Lowerse puts the symbolic and networks logither, larguage stauture gives us a lot 			
	 characteri 	 NU? 	 Indementations of the two models? 			
	 logical ser 	o NLG?				
	 extension 	 Ref ret in 1 	 how are dSI UM and SIUM complementary? 			
	 NPs which 	 Incremental 	Outline			
	 NPs we are interc 	 Ref res with 	 indefinite descriptions 			
	 descriptive 		 quantities 			
		Data Pento	 phraientties 			
	 task: x.rex for red 	 oid) 	 adatract ertifies 			
	Background: Grounding	· take				
	 perception and th 	. 128.4				
	 Harnad: the symt 	 REX tange 	NOTES			
	Luc Steels: social	ATLS				
	"representation" c	 Looking at 1 	 resolving efferring expensions are sensible question "where is the object?" 			
	 Deb Roy 	+ SUIM Apeneety	 we are concerned with interaion and extension 			
	 handling speech 	 The U fair 	 we don't refer to truth values, we sand to resolve the entity to a red-world object. 			
	 how does gaze & 	 Get 				
		 medied i.i 	 we are internated in REs (in that they effer) and not full uits (sentences or popositions (which may not) 			
		 how does a 	 This cross is red" vs: "This red cross." 			
		 ML2 	 Where might there be points of coniliation (e.g., in terminology?). 			
		 can hande 	 foliay you? 			
		 can take co obset to hi 				
		bated on E				
		anhande	Abstract about a page			
		incremental	Inter: At least 10 papers			
			Combaion 20 page			
			Main Content (from intro to condusion indusi sel); about 200 pages			
			and a second			

Intr

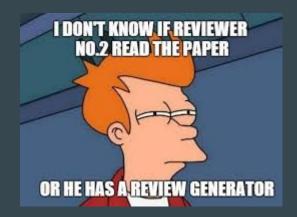
• Bac

Dealing with Failures and Setbacks

- Paper rejects
- Problems with your code, lab
- Advisor unhappy with you
- Grant reject
- Dissertation writer's block
- Health issues
- Family issues
- Imposter syndrome

Go on a walk and think through your existential crisis.

Talk to people. You'll find everyone has failures and setbacks.



Parting Thoughts

- You're human, so find an outlet to get your mind off of the crazy stuff.
 - \circ I run and cycle.
 - Even if you love what you do (which I do), you need to the a regular breath of fresh air
- To invent your own life's meaning is not easy, but it's still allowed, and I think you'll be happier for the trouble. -Bill Watterson
- You probably have many goals, but even if you don't quite reach your goals, the effort yields its own rewards.

Done.



BOISE STATE UNIVERSITY



'merican 'cademics: My experience

- The department hired 8 new faculty members in 2016
 - Faculty from U.S., China, Russia, Iran, Argentina, Romania, Italy, India
- Focus was on AI, HCI, NLP, ML, DS, IR, RS, and other acronyms
- New interdisciplinary PhD in Computing program
- Courses I've been involved in creating:
 - Foundations of Data Science (CS 133) which targets non-CS students
 - Natural Language Processing (CS [4|5]36)
 - Introduction to Data Science (CS 533)
 - Deep Learning (CS 633)
- Setting up a research group (SLIM):
 - http://web.mit.edu/tslvr/www/lessons_two_years.html
 - \circ ~ Compete for good talent with industry
 - \circ ~ Students can be a mazing and they can be flaky