

NSF CISE CAREER WORKSHOP 2018

Marine Carpuat

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About Me

- Assistant Professor, CS, University of Maryland
 - since January 2015
- Research: Natural Language Processing
- Background
 - Research Scientist, National Research Council Canada (2010-2014)
 - Postdoc, Columbia University (2008-2010)
 - PhD Computer Science, Hong Kong University of Science & Technology (2008)
 - MPhil Electrical Engineering, Hong Kong University of Science & Technology (2002)
 - Diplôme d'Ingénieur, Supélec, France (2002)

Research Agenda

- My long-term goal: build technology that breaks language barriers
- Past work
 - Machine translation
 - Lexical semantics
 - And their intersection
- CAREER project starting point
 - Observation: translation often does not preserve meaning
 - How can we detect and characterize meaning divergences?
 - How can we use this to improve and augment machine translation?

My NSF CAREER submissions

- 2016: “CAREER: Semantic Entailment Across The Language Barrier”
 - IIS Robust Intelligence
 - Rated Competitive
 - Declined

- 2017: “CAREER: Semantic Divergences Across The Language Barrier”
 - IIS Robust Intelligence
 - Rated Highly Competitive
 - Funded

Writing Process 2016

~ June 1: Start

July 20: Submit



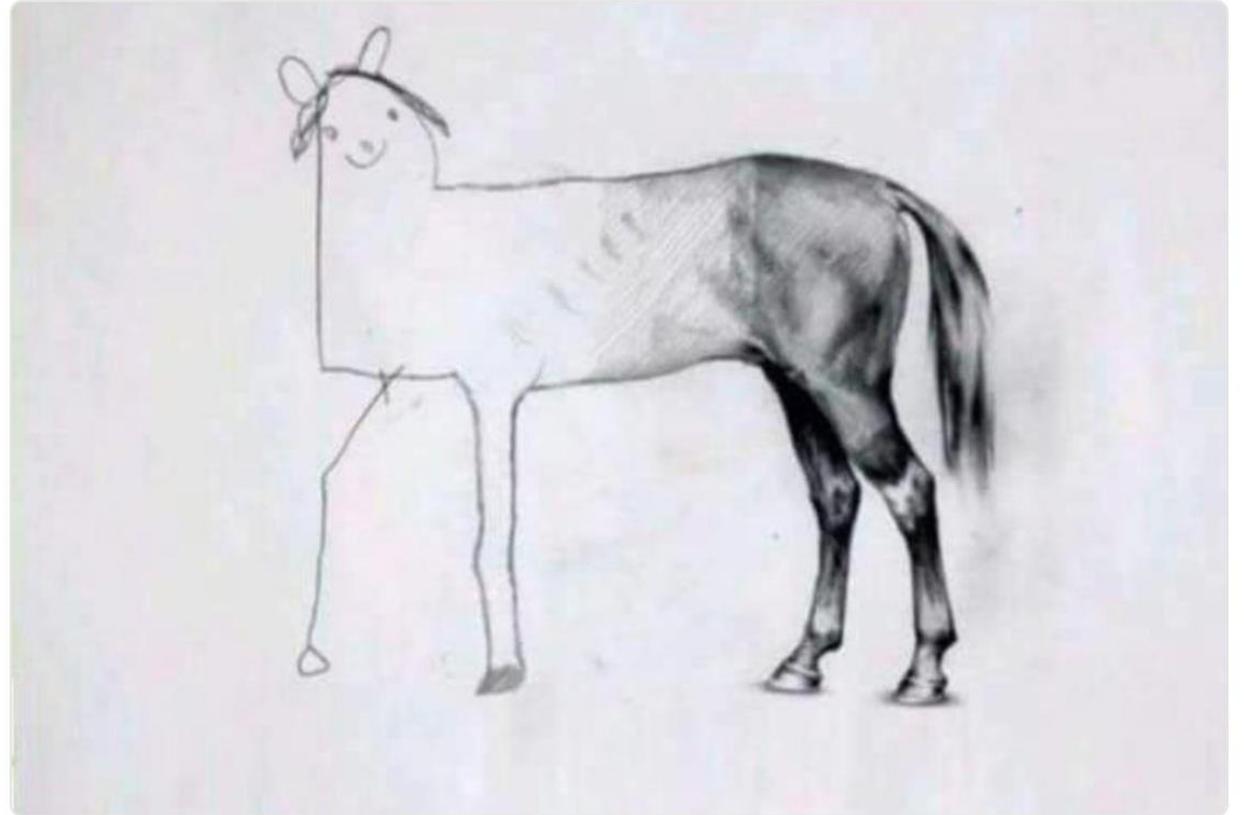
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When the deadline comes too close



1:16 PM - 23 Mar 2018

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2016 Reviews

- Research Plan Weaknesses

- “Some of the methods proposed are **not discussed in enough concrete detail** to make clear that the work is properly scoped.”
- “Interpretability is a worthy goal, but the plans for that part were **vague.**”
- “I’m also **not completely convinced** that there will be sufficient training data, especially for the neural model”
- “The proposal **does not discuss the (now approximately a dozen) papers** focused on [...]”
- “The PI has a bit **less experience** with sparse distributed representation methods than would be ideal. ”

2016 Reviews

- Education Plan Weaknesses

- “The plan to incorporate inclusive teaching methods is a worthy goal, but seems like something fairly general that all instructors should be doing and not particularly related to the rest of the proposal.”
- “It's too bad that there isn't much of a connection between the broader impact of the research and the teaching component. Somehow I feel that such a connection could be made.”

2016 Reviews

- Program director email
 - “[Panel was] generally very positive in their opinion of your proposal”
 - “weaknesses in your technical approach”
 - “We encourage you to take the panel review into account and revise and resubmit your proposal”
 - “please take into account the requirements of the CAREER program to include evaluation methods for measuring success of your education plans”
- Being on a panel helped understand and put reviews in perspective

Writing Process 2017

- Spring semester: background work
 - Dumped ideas into text file
 - Prioritized projects related to proposal
- May 30: real start
 - Re-read reviews
 - Set goal: make proposal writing process useful (and enjoyable!)
 - Started todo list
 - reading list, data analysis, people to contact, documents to be submitted...
 - Set internal deadline to July 5

Proposed Project In a Nutshell

- Research Objective
 - Advance our understanding of computational representations and methods to compare text meaning across languages
- Education Objective
 - “Translating Wikipedia” as a central theme
 - To illustrate strengths and limitations of state-of-the-art language technology
 - To broad audiences: high-school and non-CS students, CS students of diverse backgrounds
- Broader impact
 - broadening multilingual access to information
 - with techniques that augment and support machine translation
 - by introducing students of diverse background to CS research

Writing Process 2017: Treated education just like research

- Worked on both in parallel
- Built on prior work
- Integrated with research
- Integrated with existing programs
- Described evaluation instruments

2017 Reviews

- Panel Recommendation
 - “The project is novel, exciting, and will likely have large and broad impact. The PI is perfectly poised to carry out the work and the chances of transformational research products are very high. The proposal is highly competitive.”
- Not a perfect proposal! 3 specific weaknesses highlighted in summary
 - One section was not as detailed as others
 - Suggestions to consider broader range of features
 - Additional empirical analysis would have strengthened proposal

#notestoself

- Start early
- Done is better than perfect
- Get feedback early and often to understand how panel might react
- Focus
 - Why this research? Why me?
 - How does it fit with goals of program?

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