About Me

- 2003  PhD UC Santa Barbara  
  Electrical & Computer Eng.

- 2003-4  Postdoc Lawrence Livermore National Lab

- 2005  Founding faculty UC Merced  
  First CSE faculty hired!
About Me

• Research interests: technical focus
  o Image processing, computer vision, pattern recognition

• Research interests: domain focus
  o Synergy between images and geographic location
My CAREER Award

• Volunteered Geographic Information: Crowdsourcing What-Is-Where on the Surface of the Earth Through Proximate Sensing
My CAREER story

• 2006: First submission
  o Mostly extension of my PhD research
  o Not successful

• 2010: Second submission
  o New topic
  o Not successful—reviewed by wrong panel?

• 2011: Third submission
  o Revised 2010 submission
  o Awarded!
Early preparation

- Obtained sample proposals from researchers in same domain
- Served on NSF review panels (including CAREER)
- Looked through abstracts, etc. of recently funded NSF proposals in my area
- Honed proposal writing by submitting non-CAREER proposals
Writing the proposal

• Read the solicitation and GPG in detail
• You have control over progress of project description
• You don’t have control over progress of other components:
  o Budget and justification, internal forms, chair’s letter, etc.
• Make sure you know your institution’s internal deadlines!
Proposal structure (my approach)

• Have ~3 specific goals/aims
  o State them explicitly and early in the project description

• After (short) introduction, get straight to goals
  o Each can have its own related work, prior results, work plan, evaluation

• Be clear to distinguish between:
  o Other researcher’s work
  o Your previous work
  o Work to be done

• Timeline (Gantt chart)
Proposal misc

- Five years is a long time to plan so have a mixture of goals
  - Near-term, low-risk aim
  - Medium-term, medium-risk aim
  - Far-off, high-risk aim: think big
- Initial published results can help convince reviewers that the problem is worthwhile and tractable
  - I was fortunate to have a recent publication on initial work in a top conference (I quoted the reviews)
Proposal misc

• Respect font sizes, margins, etc.
  o Don’t make it challenging for the reviewers to read your proposal

• Visuals (figures) are useful for conveying information and preventing the project description from being just dense text
  o A project overview figure, if appropriate, can be particularly helpful
Integrating education

- CAREER program is unique in its expectation of well-integrated research and education

- Options
  - Engage K-12: are there groups on your campus which already have the contacts/framework?
  - Engage undergraduates through research projects (mention your record of doing this if appropriate)

- Try align with national priorities
- Quality, not quantity
- Measuring outcomes
Broader impacts

• Reaching out to underrepresented students
• UC Merced is an Hispanic Serving Institution
Getting help

• Talk with senior colleagues about your idea as well as proposal writing in general
• Talk with recent CAREER awardees in your department
• Have people you respect/trust read and provide feedback on your proposal (I did not get around to doing this)
• Get feedback from NSF program directors on declined proposals
Challenges

• Making sure your proposal is reviewed by the correct panel
  o Provide suggested reviewers who work in your proposal’s area
  o These reviewers give the NSF program director additional data points on the focus of your proposal
  o Use the project title, summary, and keywords to help direct your proposal to the correct panel
Thank you and good luck with your proposal!