Graduate School Workshop

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University of Central Florida
Graduate School Workshop

• 1:00 PM  Why Graduate School? Dr. Shah
  – Some Thoughts on Graduate School,
  – Corey McCall, 2011 NSF Fellowship winner; Enrique Oritz, 2007 NSF Fellowship winner; Zachary Daniels, 2013 NSF Fellowship Winner

• 2:00PM Dr. Jana Jasinski, Associate Dean CGS
• 2:30PM Joanna Lewis, winner of 2014 NSF fellowship
• 3:00 PM Emily Sassano, winner of 2012 NSF fellowship
• 3:30PM Some Tips for NSF GRFP: Dr. Sumit Jha

• 4:00 PM  Amir Mazheri: How to maximize your chances of getting into Ph.D. program
• 4:30 PM  Discussion
Why Graduate School?

• Job after B.S.
  – Mostly programming
  – Routine, boring..
  – Not much chance for growth
  – Low salary

• Job after Ph.D.
  – Thinking, leadership
  – Challenging, hard
  – Large salary, security of job
  – Lots of chances for growth
How to Apply for Graduate School

• Take GRE
• Get good Recommendation letters
• Write Statement of Purpose
• Contact potential advisors and read their papers
• Apply for fellowships
• Publish papers
University Professorship

- Assistant Professor
- Associate Professor
- Full Professor
- Eminent Scholar/Endowed Chair Professor
Expectation/Duties of a University Professor

• Teach
• Supervise Ph.D. M.S. students
• Secure funding/write proposals
• Publish papers
• Provide service to the University and research community
• Be the leader in the field
Evaluation of a Professor

• Student evaluations of teaching
• Citations, h-index
• Number of Ph.D. graduates
• Dollar amount of funding
• Awards
  – Fellow of Professional Societies, best paper awards
    • ACM, IEEE, AAAS, SPIE, IAPR,
  – Member of National Academy of
    • Engineering
    • Sciences
  – Turing Award
• Recommendation Letters
• Keynotes/Invited talks, short courses
• Professional Service to the community
  – Associate Editor/Editor in Chief of a journal
  – Program/General Chair of a conference
Non-Academic Jobs

• National Labs
  – ARL, AFRL, NRL, PNNL, Oak Ridge Lab, JPL, Ames, Lawrence Livermore National Laboratory…. 

• Industry
  – Commercial
    • Google, Microsoft, Facebook, Amazon, IBM, ..
  – Defense Contractors
    • Lockheed, Harris, Northrop Grumman, Raytheon, General Dynamics
  – Startups
Papers

• You need papers
  – To graduate
  – To get a job
  – To get a promotion
  – To get awards
Some Tips on Reading Research Papers

• You have to read the paper several times to understand it.

• Try first to get a general idea of the paper:
  – What problem is being solved?
  – What are the main steps?
  – How can I implement the method?
  – Even though I do not understand why each step is performed the way it is performed?
Some Tips on Reading Research Papers

• Try to relate the method to other methods you know, and conceptually find similarities and differences.

• In the first reading it may be a good idea to skip the related work.

• Do not use dictionary to just look up the meaning of technical terms.
Some Tips on Reading Research Papers

• Try to understand each concept in isolation, and then integrate them to understand the whole paper.

• Explore if some code is available, check out Open CV library, use it.
Components of A Research Paper

• Introduction
  – What is the problem?
  – Motivation, why it is important
  – What is the state of art?
  – What is your approach?
  – Why it is great?

• Related Work

• Approach

• Detailed Method, different steps

• Results

• Conclusion

• References
Review Process: Journal

- Submit, no deadline
- Assigned to an Associate Editor (AE)
- AE assigns to reviewers
- Blind reviewers
- AE makes a decision: Reject, Minor revision, major revision
- Revise the paper, and resubmit
- Decision
- Submit final version
Review Process: Conference

- Submit on fixed deadline
- Assigned to an Area Chair (AC)
- AC assigns to reviewers
- Double Blind review
- Rebuttal
- ACs meet physically
- AC makes a decision: Reject as a poster or oral
- Submit final version
- Present it in the conference
What are good papers?

• Easy to follow
• Simple to implement
• High Impact
  – Citations, h-index
Computer Vision Journals
IEEE TRANSACTIONS ON
PATTERN ANALYSIS AND
MACHINE INTELLIGENCE
JUNE 1988
VOLUME 10
NUMBER 3
POLY
PUBLISHED BY THE IEEE COMPUTER SOCIETY

SPECIAL SECTION ON 3-D MODELING IN IMAGE ANALYSIS AND SYNTHESIS

Introduction to the Special Section on 3-D Modeling in Image Analysis: T. Huang and T. Stepi 329

NOTES

3-D Motion Estimation in Model-Based Facial Image Coding: H. Li, P. Reutenauer, P. Panchanathan 335

Statistical Scene Analysis through Synthesis Feedback Control: R. Kast 336


Shape and Spatial Motion Estimation through Physics-Based Simulations: D. Terzopoulos and D. Terzopoulos 344

Computer Vision


Visually Controlled Graphs: A. Arbibian, J. Vennard, B. Sterry, and B. Perfett 361


Adaptive-Line Smoothers for Rigid and Nonrigid Shape Analysis and Synthesis: H. C. Huang and S. H. Glickauf 361

REGULAR SECTION

NOTES
Computer Vision and Image Analysis
Tracking Deformable Objects in the Plane Using an Active Contour Model: P. E. P. Lévy and M. D. Levine 377
Multiresolution Analysis of Edges and Surfaces in Gray-Scale Images: T. M. Glick and E. R. Pop 395

Computer Vision and Image Analysis
Range Imaging by Reflecting Multiple Sites with Random Cams: H. M. Hoornstra and G. Alt 397
Pattern Classification
Black-Box Pattern Recognition Using Markov Networks: T. Huang and W. G. Thomson 401
Computer Vision Conferences
IEEE Conference on Computer Vision and Pattern Recognition (CVPR)

- June 21-23, 2011
International Conference on Computer Vision (ICCV)
European Conference on Computer Vision (ECCV)

• The 12th European Conference on Computer Vision – Florence, Italy, 7-13 October 2012
International Conference on Pattern Recognition (ICPR)
Asian Conference on Computer Vision (ACCV)
Impact Factors

https://scholar.google.com/citations?view_op=top_venues&hl=en&vq=eng COMPUTERVISIONPATTERNRECOGNITION

http://academic.research.microsoft.com/RankList?entity
type=3&topDomainID=2&subDomainID=11
Computer Vision Text Books

History
Computer Vision

Linda G. Shapiro • George C. Stockman
Computer Vision
Algorithms and Applications
Richard Szeliski
Computer Vision Researchers
Computer Vision Researchers
Late Azriel Rosenfeld (Maryland)
David Marr with Poggio and Francis Crick
Berthold Horn (MIT)
Thomas Huang (UIUC)
Ruzena Bajcsy
Jake Aggarwal (UT Austin)
Chris Brown (Rochester)
Bob Haralick (CUNY)
Olivier Faugeras (INRIA, France)
Takeo Kanade (CMU)
Shree Nayar (Columbia)
John Canny (Berkeley)
Demetri Terzopoulos (UCLA)
Ramesh Jain (UCI)
Andrew Zisserman (Oxford)
Andrew Blake (Microsoft)
Rama Chellappa
David Forsyth
David Lowe
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