Vineet Pandey

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Summary: 3^{rd} year Computer Science PhD student working on problems in online education with Professor Scott Klemmer at UC San Diego Design Lab. Strong understanding of challenges in online education, such as assessement using automated tools+peers and lack of feedback for instructors. Focused on building and deploying prototypes at scale.

Experience: Demonstrated framing effects created by online learning platforms (with lab members, CHI 2016), modeled peer interactions at scale using game theory (CSCW 2016 poster), demonstrated challenges in structuring video-discussions (Learning@Scale 2015 poster). Previously developed research prototypes at Microsoft Research, Redmond and NetApp Research, Bangalore. Published research in theory as undergraduate CS student. Theoretical & hands-on knowledge of topics in Algorithms and Systems.

Education

UC San Diego	Ph.D., Computer Science (began in 2013)	*?*
BITS Pilani, India	B. Eng. (Hons.) Computer Science	*2011*

Experience

UC San Diego Design Lab *Oct 2014 - contd.*
Graduate Student, Advisor: Scott Klemmer *Peer assessment, Instructor tools*

- Research theme: Improving student and instructor interactions in MOOCs via better peer assessment techniques, automated feedback tools for students and useful visualization tools for instructors
- Coursework across Machine Learning (ML), Human-Computer Interaction (HCI) and Systems.
- Teaching Assistant for Undergraduate ML, Undergrduate HCI, Graduate HCI, Introduction to Design.

Institute of Science and Technology, Austria *July 2015 - Sep 2015*
Visiting Student, Mentor: Krishnendu Chatterjee *Peer assessment, Game Theory*

- Created an evolutionary game-theoretic model for peer feedback in online classes.
- Developed an instructor tool to undertand variation in quantity of feedback with parameters of the feedback system, such as value and cost of feedback.
- Next step: deployment in MOOCs to determine challenges and utility.

Microsoft Research, Redmond *June 2014 - Aug 2014*
Summer Intern, Mentor: Arvind Arasu *Database, Security*

- Developed a high-performance data-structure for integrity checks in database query processing with Cipherbase team; Paper under submission.

Advanced Technology Group (ATG), NetApp, Bangalore *July 2011 - May 2013*
Member of Technical Staff *Systems, Storage*

- Developed prototype for future vaulting system. Implemented network communication over a cluster.
- Reduced recovery time for failover by 60% in a high availability configuration. Implemented a Remote Direct Memory Access module for instantaenous replication of metadata.
- 20%-time project towards combining deduplication and encryption techniques for cloud storage.

Seoul National University (SNU), South Korea *Jan - June 2011*
Undergraduate Thesis, Mentor: Srinivasa Rao Satti *Theory, External memory data structures*

- Developed theoretical bounds on the performance claims of flash memory data structures.
- Represented integers in close to optimal number of bits to support increment-like operations.

Publications

1. **Framing Feedback: Choosing Review Environment Features that Support High Quality Peer Assessment** Catherine M. Hicks, Vineet Pandey, C. Ailie Fraser, Scott Klemmer. CHI 2016.
2. **Confidentiality and Integrity in Database Query Processing** Under submission. Summer internship work at MSR Redmond.
3. **Integer Representations towards Efficient Counting in the Bit Probe Model** Gerth Stølting Brodal, Mark Greve, Vineet Pandey, S. Srinivasa Rao. Journal of Discrete Algorithms 2014, TAMC 2011.

Extended Abstracts

1. **Game-theoretic models identify useful principles for peer collaboration in online learning platforms** Vineet Pandey, Krishnendu Chatterjee. CSCW 2016.
2. **Connecting stories and pedagogy increases participant engagement in discussions** Vineet Pandey,Yasmine Kotturi,Chinmay Kulkarni,Michael Bernstein,Scott Klemmer. Learning@Scale 2015.
3. **Technical Report - An HCI View of Configuration Problems** Tianyin Xu, Vineet Pandey, Scott Klemmer. arXiv.
4. **Analysis of Tree Indexing Structures for Flash Memory** SeungBum Jo, Vineet Pandey, S. Srinivasa Rao. Student Symposium, 18th International Conference on High Performance Computing, 2011.

Patent

1. **System and Method for efficiently migrating data from legacy storage systems to newer object based storage systems**. Vineet Pandey, Chhavi Sharma, Ranjit Kumar, Kaladhar Voruganti, Parag Deshmukh (NetApp). Patent granted in 2015.

Honors & Responsibilities

- 2013-14: CSE department fellowship [Awarded to all incoming CSE PhD students]
- 2012: Honorable Mention in 'Innovation' and 'Teamwork' categories at NetApp CTO Innovation awards
- 2006: Selected for Bachelors in Statistics, Indian Statistical Institute [30 students across India]
- 2005: Qualified for Indian National Olympiad in Informatics [Top 1.5% of 50000]
- 2004: National Talent Search Scholar [Top 1% of 100000]
- 2004-2006: All India Ranks 4, 6 and 9, National Cyber Olympiads
- 2015-2016: President of Association of Indian Graduate Students at UC San Diego
- 2006-2010: Multiple leadership roles during undergraduate studies with CS student body, entrepenurship cell and general student organizations

Undergraduate Research Experience

Participant, Microsoft Research Summer School — *Summer 2010*
Talks and activities around using technology to solve socio-economic problems

Summer Intern, Chinese University of Hong Kong — *Summer 2009*
Constructing a convolutional multicast code for any network with cycles — *Networks Theory*

Research Intern, Indian Statistical Institute, Kolkata — *Jan-April 2009*
Finding nearby devices without exchanging exact locations — *Security, Privacy*

Trainee, Vikram Sarabhai Space Centre, Trivandrum — *Summer 2008*
Prototype design of crew health monitoring system — *Circuit Design*