Vineet Pandey

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Education

UC San Diego	Ph.D. Candidate, Computer Science & Engineering
2013 - 19?	Thesis: *Creating Scientific Theories with Online Learners*
BITS Pilani	B. Eng. (Hons.), Computer Science
2011	Thesis: *Integer Representations towards Efficient Counting in the Bit Probe Model*

Experience

Design Lab, UC San Diego - *Graduate Student, Advisor: Scott Klemmer*   Oct 2014 - present
- Dual-objective online learning systems that enable people to perform personally-meaningful scientific work & help scientists make discoveries about the microbiome, w/ Rob Knight & American Gut Project.

Institute of Science and Technology, Austria - *Visiting Student w/ Krish Chatterjee*   Summer 2015
- Created an evolutionary game-theoretic model to explain how quantity of peer feedback in online classes varies with value and cost of feedback

Database group, Microsoft Research, Redmond - *Summer Intern w/ Arvind Arasu*   Summer 2014
- Developed a high-performance data-structure for integrity checks in database query processing

Advanced Technology Group, NetApp, Bangalore - *Technical Staff*   July 11 - May 13
- Designed a future vaulting system prototype in a clustered OS & implemented network communication
- Reduced recovery time for a datacenter node failure by 60% w/ instantaneous metadata replication
- 20%-time project towards combining deduplication and encryption techniques for cloud storage
- One patent & two in-house research papers

Seoul National University, South Korea - *Undergraduate Thesis w/ Srinivasa Rao Satti*   2011
- 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. **Docent: Social Computing Architecture that Helps People Create Personally-Relevant Scientific Hypotheses** Under submission.
2. **Gut Instinct: Creating Scientific Theories with Online Learners** Vineet Pandey, Amnon Amir, Justine Debelius, Embriette Hyde, Tomasz Kosciolek, Rob Knight, Scott Klemmer. **CHI 2017**. 25 %.
3. **Framing Feedback: Choosing Review Environment Features that Support High Quality Peer Assessment** Catherine Hicks, Vineet Pandey, Ailie Fraser, Scott Klemmer. **CHI 2016**. 23%.
- Taught in CMU's *Designing large-scale (peer) learning systems class* by Chinmay Kulkarni
4. **Concerto: A High Concurrency Key-Value Store with Integrity** Arvind Arasu, Ken Eguro, Raghav Kaushik, Donald Kossmann, Pingfan Meng, Vineet Pandey, Ravi R.. **SIGMOD 2017**. 19 %.
5. **Integer Representations towards Efficient Counting in the Bit Probe Model** Gerth S. Brodal, Mark Greve, Vineet Pandey, S. Srinivasa Rao. **Journal of Discrete Algorithms 2014, TAMC 11**

Extended Abstracts

1. **Integrating Citizen Science with Online Learning to Ask Better Questions** V. Pandey, S. Klemmer, Amnon Amir, Justine Debelius, E. Hyde, Tomasz Kosciolek, R. Knight. HCOMP 2016.
2. **Education Across Borders: Technology Supported Mentoring and Teambuilding.** Vineet Pandey. HCI Across Borders Workshop at CHI 2016.
3. **Game-Theoretic Models Identify Useful Principles for Peer Collaboration in Online Learning Platforms** Vineet Pandey, Krishnendu Chatterjee. CSCW 2016.

4. **Connecting Stories and Pedagogy Increases Participant Engagement in Discussions** Vineet Pandey,Yasmine Kotturi,Chinmay Kulkarni,Michael Bernstein,Scott Klemmer. Learning@Scale 2015.
5. **Technical Report - An HCI View of Configuration Problems** Tianyin Xu, Vineet Pandey, Scott Klemmer. arXiv.
6. **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.

Patents

- **Patent about Confidentiality and Integrity in Outsourced Databases**. Arvind Arasu, Ken Eguro, Raghav Kaushik, Donald Kossmann, Pingfan Meng, Vineet Pandey, Ravi Ramamurthy. In submission.
- **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.

Professional Activities, Mentoring, Teaching

1. **Reviewer:** CSCW 2017, CHI 2017
2. **Mentor:** Tushar Koul, Chen Yang, Liby Lee, Cody Doan, Aliyah Clayton, Brian Soe, Crystal Kwok, Rachel Chen, Robert Goebel (High school student) - with Catherine Hicks and Scott Klemmer
3. **Teaching Assistant:** Graduate Human-Computer Interaction (COGS 230/CSE 216), Undergraduate Human-Computer Interaction (COGS 120/CSE 170), Undergraduate Machine Learning (CSE 151), Introduction to Design (DSGN 1)
4. **Human-Computer Interaction Area Lead** for CSE Visit Day 2015 at UC San Diego
5. **Scientific Advisor** for ColonyB - a Game with a Purpose to cluster microbiome data

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

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*