Discover Viterbi:
New Programs in Computer Science

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Professor and Chairman
USC Computer Science Department

Meghan McKenna Balding
Graduate & Professional Programs

April 23, 2013
Will I be able to get a copy of the slides after the presentation?

YES!

How can I ask a question during the info session?

1. Use the Chat panel to the right of this presentation. You will be able to send a message to the Panelists.

2. Type your question in the box.

3. In the dropdown menu where it says “Send to” select “All Panelists” so an advisor can answer your questions via chat.
Today’s Program

- The University of Southern California
- Viterbi School of Engineering
- MS in Computer Science (Data Science)
- MS in Computer Science for Technical Professionals
- Distance Education Network (DEN@Viterbi)
- Tuition & Fees
- Q&A
The University of Southern California
The University of Southern California

- Oldest private university in western U.S. – founded in 1880
- 40,000 Students: 18,000 Undergrads | 22,000 Graduates
- 3,400 full-time faculty
- Diverse student population
- Located in Los Angeles
USC Engineering: Points of Distinction

• International Reputation for Excellence

• New Announcements:
  • Ranked #1 in *both* the Online Graduate Engineering Program and Online Computer Information Technology Program (Computer Science) rankings by the *US News and World Report (2013 Edition)*

• World Class Faculty & Research

• The Trojan Family Network: 60,000+ engineers strong

• Unique engineering programs available – *online, on site & on campus.*

• Complete range of programs
  PhD, Masters & Bachelors Programs
  Graduate Certificates
  Continuing Education Short Courses
  Custom Programs
Meet Professor Gaurav S. Sukhatme

Professor and Chairman, Department of Computer Science
(Joint appointment in Electrical Engineering)

Co-Director, Robotics Research Lab
Director, Robotic Embedded Systems Lab

Center for Embedded Networked Sensing
Center for Robotics and Embedded Systems

• IEEE Fellow and a member of AAAI and the ACM
• Recipient of the NSF CAREER award
• Recipient of the Okawa foundation research award

Education:
Undergraduate Education: IIT Bombay in Computer Science & Engineering
M.S. & Ph.D. in Computer Science from University of Southern California
Masters Programs in Computer Science at USC

- Computer Science
- CS – Computer Networks
- CS – Computer Security
- **CS – Data Science – NEW program**
- CS – Game Development
- CS – High Performance Computing and Simulation
- CS – Intelligent Robotics
- CS – Multimedia and Creative Technologies
- CS – Software Engineering
- **CS – MS for Technical Professionals – NEW program**

• For every Big Data problem, the solution often rests on the shoulders of a data scientist
M.S. in Computer Science (Data Science): Overview

1. Provides students with a core background in Computer Science

2. Specialized algorithmic, statistical, and systems expertise in acquiring, storing, accessing, analyzing and visualizing large, heterogeneous and real-time data

3. Diverse real-world domains including energy, the environment, health, media, medicine, and transportation

4. On-campus only
M.S. in Computer Science (Data Science): Faculty Highlights

Cyrus Shahabi
Professor, Computer Science
Director, Integrated Media Systems Center

Yan Liu
Assistant Professor, Computer Science

Fei Sha
Assistant Professor, Computer Science
Jack Munushian Early Career Chair.
MS in Computer Science (Data Science): Course Outline

**Required Courses**
- CSCI 570 | Analysis of Algorithms
- CSCI 585 | Database Systems
- CSCI 561 | Foundations to Artificial Intelligence
- EE 517 | Statistics for Engineers

**Group Electives (Choose 3, minimum 1 from each group)**
- Group 1 – Data Systems
- Group 2 – Data Analysis

**Electives (Minimum of 2 courses)**
Any 500 or 600 level course in Computer Science, including additional group electives

**Degree Completion Requirement: 27 units**
MS in Computer Science (Data Science): Group Electives

(3 courses) (must take minimum 1 course from each group):

Group 1 (Data Systems):
CSCI 548 Information Integration on the Web
CSCI 572 Information Retrieval & Web Search Engines
CSCI 653 High Performance Computing and Simulation
CSCI 586 Database System Interoperability
CSCI 587 Geospatial Information Management
CSCI 685 Advanced Topics in Database Systems

Group 2 (Data Analysis):
CSCI 567 Machine Learning
CSCI 573 Probabilistic Reasoning
CSCI 686 Advanced Big Data Analytics
ISE 520 Optimization: Theory and Algorithms
MATH574 Applied Matrix Analysis
Electives (a minimum of 2 courses from the following)

Any 500 or 600 level course in CSCI (including additional group electives)
MATH 650 Seminar in Statistical Consulting
MATH 505a Applied Probability
Application Criteria for MS in Computer Science (Data Science)

• Undergraduate degree (Bachelor of Science) in engineering, math, or hard science from a regionally-accredited university

• To be competitive, a cumulative undergraduate GPA of at least 3.0 on a 4.0 scale is recommended

• Satisfactory scores on the general portion of the Graduate Record Examination (GRE) that are less than five years old

• Substantial background in computing is a minimum requirement

• TOEFL (International Applicants)

• Supplemental Materials:
  • Letters of Recommendation (optional)
  • Statement of Purpose (optional)

• Complete requirements: viterbi.usc.edu/msdegrees
MS in Computer Science for Technical Professionals

• A cohort-based degree designed for computer science technical professionals with 3-5 years of work experience

• Students may begin the program at any point in the year - fall, spring, or summer

• It is possible to complete the degree in one calendar year

• On-campus and online via DEN@Viterbi
Required Courses
CSCI 402 | Operating Systems**
CSCI 561 | Foundations of Artificial Intelligence and/or
          CSCI 580 | 3-D Graphics & Rendering***
CSCI 570 | Analysis of Algorithms
CSCI 577a | Software Engineering
CSCI 577b | Software Engineering
CSCI 571 | Web Technologies
CSCI 576 | Multimedia Systems Design
CSCI 585 | Database Systems

*Students enrolled in the program are not limited to the courses listed here. These are simply the courses which we routinely offer in evening sessions. Schedule permitting, students are free to take advantage of our full array of courses, including those offered during the day. However, any course selection beyond this list should be done in consultation with an academic advisor.

**Students who can demonstrate programming proficiency may replace 402 with another 500 level elective.

***If a student wishes to take both 561 & 580, the 2nd course may be taken in place of 571, 576, or 585.

Degree Completion Requirement: 27 units
Application Criteria for MS in Computer Science for Technical Professionals

- Undergraduate degree (Bachelor of Science) in engineering, math, or hard science from a regionally-accredited university

- 3 – 5 years of prior work experience

- Satisfactory scores on the general portion of the GRE that are less than five years old (optional)

- Substantial background in computing is a minimum requirement

- TOEFL (International Applicants)

- Supplemental Materials:
  - Letters of Recommendation (optional)
  - Statement of Purpose (optional)

- Interview Required for Finalists

- Complete requirements: viterbi.usc.edu/msdegrees
Application Deadlines

- EXTENDED FALL 2013 DEADLINE: June 1, 2013*
- SPRING 2014 – September 15, 2013

Apply Online:
  - http://www.usc.edu/admission/graduate/apply

* Extended application deadline is for MS in Computer Science (Data Science), MS in Computer Science for Technical Professionals, and Master of Cyber Security programs ONLY.
If you have already applied and/or been admitted to Fall 2013 and are interested in one of these programs:

- Email the following to viterbi.gradprograms@usc.edu for further instructions
  - Name
  - USC ID
  - Program you are interested in:
    - MS in Computer Science – Data Science
    - MS in Computer Science – Technical Professionals
Course Delivery Methods

Methods of Course Delivery

- **On-campus, full time**
  - MS in Computer Science – Data Science
  - Master of Computer Science for Technical Professionals

- **Distance delivery via DEN@Viterbi**
  - Master of Computer Science for Technical Professionals
Distance Education Network (DEN@Viterbi)

• Pioneer in distance learning since 1972

• Online delivery makes earning an MS degree practical for working professionals

• Online and on-campus students have fully equivalent academic experiences and earn the same degree

• Technical Requirements:
  – High-speed internet access (DSL/Cable minimum)
  – Windows Media Player
  – Adobe PDF Reader
## Distance Education Network (DEN@Viterbi)

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<tr>
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<th>DEN@Viterbi Student</th>
<th>On-Campus Student</th>
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<tbody>
<tr>
<td><strong>Program Admission</strong></td>
<td>USC Graduate Application &amp; required materials</td>
<td>USC Graduate Application &amp; required materials</td>
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<tr>
<td><strong>Weekly Course Lectures</strong></td>
<td>Online with Interactivity</td>
<td>On USC’s Campus</td>
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<tr>
<td><strong>Online Course Archives</strong></td>
<td>✓</td>
<td>✓ *</td>
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<tr>
<td><em>(Lectures &amp; Course Documents)</em></td>
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<tr>
<td><strong>Assignments</strong></td>
<td>Submit electronically via email or fax according to course deadlines</td>
<td>Submit during lecture or lab according to course deadlines</td>
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<td><strong>Exams</strong></td>
<td>Proctored location except for students located in L.A. area</td>
<td>USC’s campus</td>
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<tr>
<td><strong>Courses per Semester</strong></td>
<td>1-2</td>
<td>3-4</td>
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<td><em>(Average)</em></td>
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<td><strong>Degree Completion Requirements</strong></td>
<td>27-34 units with a 3.0 GPA or above</td>
<td>27-34 units with a 3.0 GPA or above</td>
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<td><strong>USC Diploma</strong> <em>(No Distinction)</em></td>
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*DEN@Viterbi sections only.*
DEN@Viterbi’s E-Learning System

University of Southern California
Distance Education Network (DEN)

Now Showing CSCI455x_20123

Video window and controls

Video can expand to full screen and high resolution downloads are available

Class notes are enlarged for better viewing; and can be downloaded and printed!

Navigation bar for jumping to different parts of the lecture

Playback Speed Multiplier: x 1
(regular speed is 1)
DEN@Viterbi Additional Info

**Limited Status**
- Allows strong candidates to begin coursework before formal admission.
- Courses (*maximum of 4 courses*) can be applied toward degree program once admitted but *limited status does not guarantee admission*.
- Get Started: [http://gapp.usc.edu/graduate-programs/den/getting-started](http://gapp.usc.edu/graduate-programs/den/getting-started)

**Tuition Deferment**
- Students supported by company can defer “up front” payment of tuition until after the semester is over.
- Company must pay 75-100% of tuition to be eligible for program.
- For additional information: [http://gapp.usc.edu/tuitiondeferment](http://gapp.usc.edu/tuitiondeferment)
Tuition & Fees for MS Student (2013-2014)

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<tr>
<th>PER-COURSE TUITION</th>
<th>Tuition for 3-Unit Course</th>
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<td>500/600 level course: $1636 per unit</td>
<td>$4,908</td>
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- Degree Programs are 27-34 units (9-11 courses) – Tuition total is about $45,000
- On-campus students will be required to pay $750-$900 in additional mandatory fees per semester
Getting Started

- For those interested in taking classes on campus:
  - Visit USC campus
  - Start your application:
    http://www.usc.edu/admission/graduate/apply

- For those interested in DEN delivery
  - Start as Limited Student for next semester or apply for admission at the link above
USC Viterbi School of Engineering
Graduate & Professional Programs

e: viterbi.gradprograms@usc.edu

p: 213.740.4488

w: viterbi.usc.edu/msdegrees