INNOVATION & TECHNOLOGY ACADEMY

Summer 2018

Stanford, UC Berkeley, & Silicon Valley

EXCELORATORS

1 Broadway, 14th Floor Cambridge, MA 02142
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COURSE OBJECTIVES

Program Highlights

- Discover emerging trends in technology and developments expected by 2020
- Gain perspective of VR/AR/AI and Robotics
- Experience hands-on workshops with current trendsetting technologies
- Network with successful technology entrepreneurs
- Visit and explore startup companies and AI/VR Labs
- Design a new idea for a future technology business
- Present your idea in competition with other students

Welcome to our Innovation and Technology Academy

The purpose of this experience is to inspire students to imagine a new world by providing a deep understanding of the fundamentals of the latest technological trends. Specific emphasis will be placed on augmented reality (AR)/virtual reality (VR), artificial intelligence (AI), robotics and the Internet of things (IoT). Through both classroom and hands-on experiences students will work as teams to develop a new idea for applying technology to solve our modern challenges.

DAY ONE

**Introduction and
Future Trends**

Day One Highlights

- Introduction, welcome, and course expectations
- Technology trends 2020
- Campus tour: UC Berkeley
- Meet with University AI faculty and lab introduction

Course Expectations

This introduction to the Excelorators Innovation & Technology Academy offers a brief overview of the areas covered, including artificial intelligence (AI), augmented reality (AR), virtual reality (VR), robotics and the Internet of Things (IoT) gives students a glimpse of the things they will take away from the program if they apply themselves.

Campus Tours

Students will have the opportunity to compare what experiencing a campus tour is like in real life and then in virtual reality. The University of California at Berkeley has created a virtual tour experience of the campus. We will try our best to recreate this tour in real life and then use this experience as a foundation to begin exploring VR/AR technologies.

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DAY TWO

Virtual and Augmented Reality Technology

Day Two Highlights

- Introduction to VR/AR technologies
- Perception, cognition and presence in VR/AR
- Understanding AI principles and the integration of AI with AR and VR functions
- Stanford Campus Tour
- Scenic Tech Hike: Stanford Dish Trail

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Augmented reality and virtual reality technologies will have a profound impact on how we access and share information and experience content now and in the future. In this session students get a brief overview of the history of VR/AR technologies; learn about technology platforms, including Facebook/Oculus, HTC Vine, Sony PlaystationVR, Microsoft's HoloLens, Google Cardboard, and Samsung Gear; discuss the applications of virtual reality in education, engineering, entertainment, medicine and others; and discuss current software developers and their projects. Students also get hands-on experience with offerings from leading platforms.

DAY THREE

Human Computer Interface (HCI) Projects and Corporate Visits

Day Three Highlights

- Human computer interface and interaction design
- The future of AR/VR
- Silicon Valley Tech Museum - the birthplace of computers, technology and innovation in Silicon Valley

" The reality is that familiarity and intuition must be consciously designed into the interface. "

DAY FOUR

AI, Robotics, and Case Studies

Day Four Highlights

- Introduction to AI and robotics
- Extracting design principles from biology
- Interactive case study I
- Interactive case study II
- Corporate visits with successful startups and established corporations - Corporate visits vary with each program, can include: Cisco, Intel, Dravis AR/VR Lab

" A lot of what AI is being used for today only scratches the surface of what can be done. It will become so ubiquitous that we won't even call it AI anymore. "

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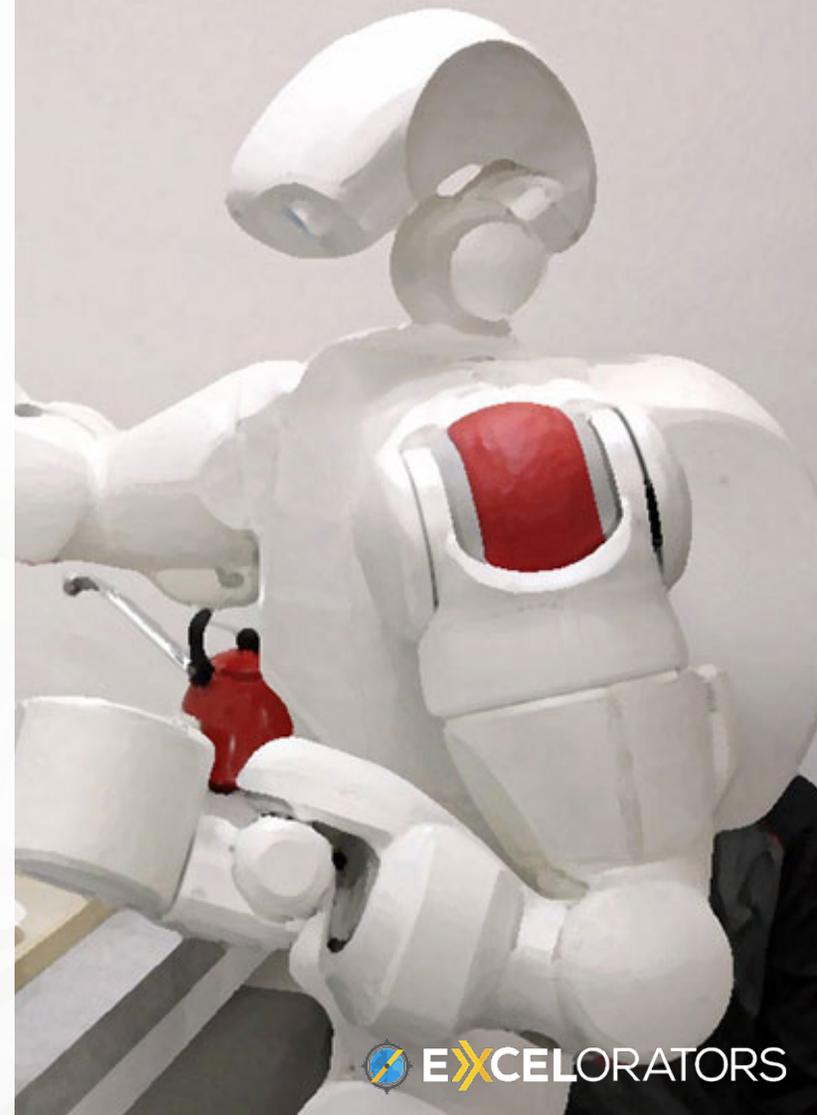
DAY FIVE

Robots/AI and Human Intent, Corporate Visit

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Day Five Highlights

- Robots recognizing human intent
- Robots and AI in the workplace
- Visit to AI/VR lab or research facility, UC Berkeley

During collaborative tasks involving humans and robots, it is useful for the robot to understand what the human user is doing, and to anticipate what the user is likely to do in the future. The robot should gain this understanding based on observations of the user coupled with contextual knowledge of the human's activity.

Futurists imagine a world where robots perform most tasks, dramatically increasing productivity while reducing labor costs. But at present, while robots are adept at heavy lifting, they are much slower than human workers at sorting tasks. This has created a symbiotic relationship between people and their mechanical workmates that is being augmented by AI, so robots are able to "read" human temperament.

DAY SIX

New Technology Presentation, Feedback, and Ceremony

Day Six Highlights

- New technology concept group preparation and presentations
- Judges feedback and presentation of awards
- Closing ceremony and celebration dinner

After learning about current technologies and experiencing the trends that will impact 2020, students are asked to design a new technology concept that will revolutionize the future and present them in a head to head competition. In our preparation sessions, students work together to develop their concepts, before presenting them before a panel of judges who will determine which are the best.

Innovation and Technology Academy
CALENDAR

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	Arrival	Day One	Day Two	Day Three	Day Four	Day Five	Day Six	Departure
BREAKFAST								
AM	Arrival and Check-in	UC Berkeley Introduction, Welcome & Course Expectations, Technology Trends 2020	Stanford University Introduction to VR/AR Technologies & Perception, Cognition and Presence in VR/AR	Stanford University Human Computer Interface and Interaction Design, The Future of VR/AR	UC Berkeley Introduction to AI and Robotics, Extracting Design Principles from Biology	UC Berkeley Robots Recognizing Human Intent, Robots and AI in the Workplace	UC Berkeley New Technology Concept Group Preparation, New Technology Concept Group Presentation	Pack and Depart
LUNCH								
PM	Opening Dinner, Unpacking, Socializing and Rest	Berkeley Campus Tour, Visit Campus AI Lab & tour	Stanford Campus Tour Hands-On Technology Workshop with Industry Experts	Corporate Visits with Successful Startups and Established Corporations / Visit Silicon Valley Tech Museum	Interactive Case Studies (I and II)	Corporate Visit, New Technology Concept Group Preparation	Judges' Feedback and Awards / Completion Ceremony and Final Dinner	
DINNER								

Stanford University

Stanford University, located in the heart of California's Silicon Valley, is a private research university whose wealth and societal impact have made it one of the world's most prestigious universities. Since its opening in 1891, Stanford has been dedicated to finding solutions to big challenges and to preparing students for leadership in a complex world. Twenty Nobel laureates are currently members of the Stanford community. Areas of excellence range from the humanities to social scientists to engineering and the sciences. It ranks second in Shanghai's Academic Ranking of World Universities.

The University of California, Berkeley

For the past seventeen years, the University of California, Berkeley has ranked first in the U.S. News and World Report rankings of public national universities. Founded in 1868, it is currently the home of seven nobel laureates and 77 faculty Fulbright Scholars. UC Berkeley ranked third, after Harvard and MIT, in the U.S. News Best Global Universities rankings. The Haas School of Business at UC Berkeley is the second-oldest business school in the United States, and is one of the world's leading producers of new ideas and knowledge in business.

San Francisco, CA

San Francisco is more than just the physical headquarters of our virtual world (home to Airbnb, Uber, and Twitter). There are some things that haven't changed, and by themselves, are reason enough to revisit: the mind-boggling views along that glorious waterfront; the Mission's still-feisty, freaky, welcome-all-comers character; the meandering natural pleasures of Golden Gate Park. Even when classic San Francisco rubs up against new San Francisco, the friction, though at times contentious (Google bus protests, the anti-eviction fight), is also where the community-conscious activist roots of this city are as vital and visible as ever.

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MORE INFORMATION

To arrange this training session with Excelorators or to develop a custom program, please contact us.

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