



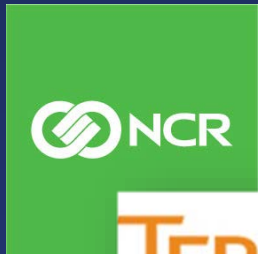
# Never. Stop. Learning.

Faye Chou Kurpanek  
UC San Diego  
Jacobs School of Engineering

# My Background

GRCon17

- Math/CS
- M.S. Information Systems
- MBA



UC San Diego  
Jacobs School of Engineering

# The Times They Are A-Changin'

- Bob Dylan, 1964



*Education is what people do to you.  
Learning is what you do for yourself.*

**Joi Ito**

Entrepreneur, Venture Capitalist, Activist

# Continuous Learning for Engineers

GRCOn17

- Technical Skills
- Non-technical Skills/Business Skills →

Everyday Skills

# True or False?

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If you are: technically strong or  
lead architect or  
key contributor or  
“all that and a bag of chips”

then it's OK if you don't have the best everyday  
skills because your tech skills will keep you  
employed.

*False!*

# Everyday Skills

GRCon17

- MBA
  - accounting, economics, finance, marketing, human resources, and operations
- MBAs for Engineers
  - Does it really benefit an engineer?
  - Does it really benefit a tech lead/architect/CTO?
  - Does it really benefit an engineering manager?

# Everyday Skills

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- Consider a Mini-MBA
  - Essentials of Business Practice
  - Managing Stakeholder Relations
  - Leadership Values, Skills



# Technical Learning

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- How do you stay current?
  - New Tools
  - New Technologies
  - New Methodologies
- How do you show your employer/investor/customer you are as competitive as new(er) grads?
  - Domain expertise + application of new tools/tech/methods = better package than new grads

# Technical Learning

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## Self-study

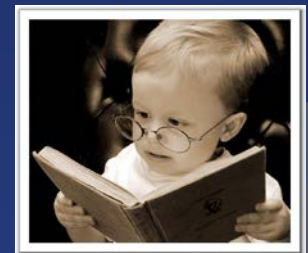
Forums

Conference

Certificate

Degree

- Self-study
  - Book/White Paper/YouTube/edX
  - Best for:
    - General Knowledge
    - Familiar
  - Beware of:
    - Lack hands-on
    - Lack collaboration



# Technical Learning

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Self-study

**Forums**

Conference

Certificate

Degree

- Forums/User Groups/Blogs
  - Informal online groups
  - Best for:
    - Interacting with experts in the field
    - Quick response
    - Undocumented cases
  - Beware of:
    - Must filter through people who think they are experts but really aren't



# Technical Learning

GRCOn17

Self-study

Forums

**Conference**

Certificate

Degree

- Sponsored Conference/Training Class
  - Best for:
    - Networking – Learning what others are doing
    - Academia/Research
    - Expanding/in-depth knowledge in a certain domain area
  - Beware of:
    - Specific to a tool/technology



# Technical Learning

GRCon17

Self-study

Forums

Conference

**Certificate**

Degree

- Graded course/certificate
  - In person or online
  - Best for:
    - Hands-on practice
    - Effective learning technique
  - Beware of:
    - Narrow focus
    - May not provide you with the depth you need

Massachusetts Institute of Technology

*This is to certify that*

**John Q. Professional**



*An successfully completed*

Architecture and Systems Engineering:  
Models and Methods to Manage Complex Systems

# Technical Learning

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Self-study  
Forums  
Conference  
Certificate  
**Degree**

- Master's Degree Program
  - In person or online
  - Best for:
    - Hands-on practice
    - Effective learning technique
    - Recognized/respected
  - Beware of:
    - Time
    - Cost
    - Need



# Master's Degrees While Working

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- Online vs In-person Considerations
  - Online benefits
    - Schedule
    - Able to attend non-local university
  - Online concerns
    - Graduation rate
    - Networking/collaboration
    - Hands-on/accessibility
    - Credibility



# Master's Degrees While Working

GRCon17

- Caveats/Questions to ask
  - “Professional” vs “Traditional” Programs
  - Who teaches in the program?
  - Accredited?
  - Student status?
  - Support (after hours/weekends)?
  - What's included in cost?
  - Admission rate?
  - Graduation rate?



# Master's Degrees While Working

GRCOn17

- When is the right time to go?
  - Two years  $\rightarrow \infty$
- How much does it cost?
  - \$30K  $\rightarrow$  \$120K
- I already have MS or PhD, should I consider another Master's degree?
  - Yes!
- Does it really help?
  - Empirical evidence says yes
- Are people really doing this?

Abbott Laboratories	Clarity Design	Hewlett Packard	Network Appliances (NetApp)	Survice Engineering
Abbott Vascular Devices	Classic Wire Cut	Hologic	Neustar	Sycuan Casino
Accenture	CodeMetro	Hospira	Nokia	SyneractHCR
Active Mind Technology	Cognex Corporation	Hyundai Mobis	Northrop Grumman Aerospace	Tandem Diabetes
Advanced Brain Monitoring	CoStar Group	IKA	Systems	TASC
AeroAstroTech	Covidien	Illumina	Northrop Grumman Mission	Teco Diagnostics
ai-one	Crafter Brothers	InfoSys	Systems	Teradata
Ajinomoto Althea	Cubic Global Defense	Innovive	NuVasive	Texas Instruments
Alion Science and Technology	Cubic Transportation Systems	Inova Diagnostics	Obzervant	Thermo Fisher Scientific
Alphatec Spine	Cymer	Integrant	Oncore Manufacturing	Ticom Geomatics
American Bureau of Shipping	Deccan International	INTEGRIS Group	OneRoof Energy	TrellisWare
Angeles Crest Engineering	Dexcom	Intel	Optum360/United Health Group	Triage Consulting Group
Athena Mobile	D&K Engineering	Intuit	Panasonic	Turn Key
Apex Biotechnology	Encore Capital Group	JMJ Financial	Parastack	Ubiqomm
Applied Medical	EMN Defense Services	John Wayne Cancer Institute	Peregrine Semiconductor	UCSD Information Technology
AT Dynamics	Endologix	KAB Laboratories	Pfizer	Services
BAE Systems	EnGenious Technologies	KEDZIG	ProQinase GmbH	UCSD Medical Center
Bank of America	Entropic Communications	Kelpac Medical	Qualcomm	UCSD Research Administration
Bank of America Home Loans	Epic Systems	Komaru Technologies	Raytheon	UCSD Scripps Institute of
Barona Resort & Casino	ESRI	Kontron America	Resonetics	Oceanography
Beckman Coulter	Fallbrook Engineering	kWh Analytics – Solar Risk	SAIC	United States Navy
Biopico Systems	Forcepoint	Management	Samsung	United Technologies Aerospace
Biorxn	Ford Motor Company	Leica Systems	San Diego State University	Universal Hospital Services
Boeing	Forward Slope	Leidos	San Diego Super Computer, UCSD	Uptake
Booz Allen Hamilton	Future Education	Life Technologies	SeaSpine	Veyo
Branchpoint Technologies	Galaxy	LifeNet Health	Sentek Global	ViaSat
Broadcom	Gas and Power Technologies	Loan Depot	Servicios Quirugicos S.A.	Volcano
Cakesoft Technology	Genentech	Lockheed Martin	Scripps Health	Vulcan Wireless
California Correctional Health Care	General Atomics	Los Angeles Dodgers	Scripps Institute, UC San Diego	Walt Disney Company
Services	Gimbal	Lucent-Alcatel	Shutterfly	Webroot
Caradigm	GlySens	Makena Technologies	SkySurgery	West Arbor Group
Callaway Golf	Google	Medtronic Ablation Frontiers	Slacker Radio	Workday
Carefusion	GoPro	Medtronic Minimed	Social Nightlife	Y8L Consulting
Carollo Engineers	greenfence	Metron Scientific Solutions	Solar Turbines	4Med Imagin
Catheter Connections	Growth 2.0	MITRE	Stonehenge Financial Partners	
CeloNova BioSciences	Harper Construction	NAVAIR	SPAWAR SSC Pacific	

7 years  
No ads

Abbott Laboratories	Clarity Design	<b>Hewlett Packard</b>	Network Appliances (NetApp)	Survice Engineering
Abbott Vascular Devices	Classic Wire Cut	Hologic	Neustar	Sycuan Casino
Accenture	CodeMetro	Hospira	Nokia	SyneractHCR
Active Mind Technology	Cognex Corporation	Hyundai Mobis	<b>Northrop Grumman Aerospace Systems</b>	Tandem Diabetes
Advanced Brain Monitoring	CoStar Group	IKA	<b>Northrop Grumman Mission Systems</b>	TASC
AeroAstroTech	Covidien	Illumina	NuVasive	Teco Diagnostics
ai-one	Crafter Brothers	InfoSys	Obzervant	Teradata
Ajinomoto Althea	<b>Cubic Global Defense</b>	Innovive	Oncore Manufacturing	Texas Instruments
Alion Science and Technology	<b>Cubic Transportation Systems</b>	Inova Diagnostics	OneRoof Energy	Thermo Fisher Scientific
Alphatec Spine	Cymer	Integrant	Optum360/United Health Group	Ticom Geomatics
American Bureau of Shipping	Deccan International	INTEGRIS Group	Panasonic	TrellisWare
Angeles Crest Engineering	Dexcom	<b>Intel</b>	Parastack	Triage Consulting Group
Athena Mobile	D&K Engineering	<b>Intuit</b>	Peregrine Semiconductor	Turn Key
Apex Biotechnology	Encore Capital Group	JMJ Financial	<b>Pfizer</b>	Ubiqomm
Applied Medical	EMN Defense Services	John Wayne Cancer Institute	ProQinase GmbH	UCSD Information Technology Services
AT Dynamics	Endologix	KAB Laboratories	<b>Qualcomm</b>	UCSD Medical Center
BAE Systems	EnGenious Technologies	KEDZIG	Raytheon	UCSD Research Administration
<b>Bank of America</b>	Entropic Communications	Kelpac Medical	Resonetics	UCSD Scripps Institute of Oceanography
Bank of America Home Loans	Epic Systems	Komaru Technologies	SAIC	United States Navy
Barona Resort & Casino	ESRI	Kontron America	Samsung	United Technologies Aerospace
Beckman Coulter	Fallbrook Engineering	kWh Analytics – Solar Risk Management	San Diego State University	Universal Hospital Services
Biopico Systems	Forcepoint	Leica Systems	San Diego Super Computer, UCSD	Uptake
Biorxn	<b>Ford Motor Company</b>	Leidos	SeaSpine	Veyo
<b>Boeing</b>	Forward Slope	Life Technologies	Sentek Global	<b>ViaSat</b>
Booz Allen Hamilton	Future Education	LifeNet Health	Servicios Quirugicos S.A.	Volcano
Branchpoint Technologies	Galaxy	Loan Depot	Scripps Health	Vulcan Wireless
Broadcom	Gas and Power Technologies	<b>Lockheed Martin</b>	Scripps Institute, UC San Diego	<b>Walt Disney Company</b>
Cakesoft Technology	Genentech	Los Angeles Dodgers	Shutterfly	Webroot
California Correctional Health Care Services	General Atomics	Lucent-Alcatel	SkySurgery	West Arbor Group
Caradigm	Gimbal	Makena Technologies	Slacker Radio	Workday
Callaway Golf	GlySens	Medtronic Ablation Frontiers	Social Nightlife	Y8L Consulting
Carefusion	<b>Google</b>	Medtronic Minimed	<b>Solar Turbines</b>	4Med Imaging Solution
Carollo Engineers	GoPro	Metron Scientific Solutions	Stonehenge Financial Partners	
Catheter Connections	greenfence	MITRE	SPAWAR SSC Pacific	
CeloNova BioSciences	Growth 2.0	NAVAIR		
	Harper Construction			

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Abbott Vascular Devices  
Accenture  
Active Mind Technology  
Advanced Brain Monitoring  
AeroAstroTech  
ai-one  
Ajinomoto Althea  
Alion Science and Technology  
Alphatec Spine  
American Bureau of Shipping  
Angeles Crest Engineering  
**Athena Mobile**  
Apex Biotechnology  
Applied Medical  
AT Dynamics  
BAE Systems  
Bank of America  
Bank of America Home Loans  
Barona Resort & Casino  
Beckman Coulter  
Biopico Systems  
Biorxn  
**Boeing**  
Booz Allen Hamilton  
Branchpoint Technologies  
**Broadcom**  
Cakesoft Technology  
**California Correctional Health  
Care Services**  
Caradigm  
**Callaway Golf**  
**Carefusion**  
Carollo Engineers  
Catheter Connections  
CeloNova BioSciences

Clarity Design  
**Classic Wire Cut**  
CodeMetro  
Cognex Corporation  
CoStar Group  
Covidien  
Crafter Brothers  
**Cubic Global Defense**  
**Cubic Transportation Systems**  
Cymer  
Deccan International  
Dexcom  
**D&K Engineering**  
Encore Capital Group  
EMN Defense Services  
Endologix  
EnGenious Technologies  
**Entropic Communications**  
Epic Systems  
ESRI  
**Fallbrook Engineering**  
Forcepoint  
**Ford Motor Company**  
Forward Slope  
Future Education  
Galaxy  
Gas and Power Technologies  
**Genentech**  
**General Atomics**  
Gimbal  
GlySens  
**Google**  
**GoPro**  
greenfence  
Growth 2.0  
Harper Construction

**Hewlett Packard**  
Hologic  
**Hospira**  
Hyundai Mobis  
IKA  
Illumina  
InfoSys  
Innovive  
Inova Diagnostics  
Integrant  
INTEGRIS Group  
**Intel**  
Intuit  
JMJ Financial  
John Wayne Cancer Institute  
KAB Laboratories  
**KEDZIG**  
Kelpac Medical  
Komaru Technologies  
Kontron America  
kWh Analytics – Solar Risk  
Management  
Leica Systems  
Leidos  
Life Technologies  
LifeNet Health  
Loan Depot  
**Lockheed Martin**  
Los Angeles Dodgers  
Lucent-Alcatel  
Makena Technologies  
Medtronic Ablation Frontiers  
Medtronic Minimed  
Metron Scientific Solutions  
MITRE  
**NAVAIR**

Network Appliances (NetApp)  
Neustar  
Nokia  
**Northrop Grumman Aerospace  
Systems**  
**Northrop Grumman Mission  
Systems**  
**NuVasive**  
Obzervant  
Oncore Manufacturing  
OneRoof Energy  
Optum360/United Health Group  
Panasonic  
Parastack  
**Peregrine Semiconductor**  
Pfizer  
ProQinase GmbH  
**Qualcomm**  
**Raytheon**  
Resonetics  
SAIC  
**Samsung**  
San Diego State University  
San Diego Super Computer, UCSD  
SeaSpine  
Sentek Global  
Servicios Quirugicos S.A.  
Scripps Health  
Scripps Institute, UC San Diego  
Shutterfly  
SkySurgery  
**Slacker Radio**  
Social Nightlife  
Solar Turbines  
Stonehenge Financial Partners  
**SPAWAR SSC Pacific**

Survice Engineering  
Sycuan Casino  
SynteractHCR  
**Tandem Diabetes**  
TASC  
Teco Diagnostics  
**Teradata**  
**Texas Instruments**  
Thermo Fisher Scientific  
Ticom Geomatics  
**TrellisWare**  
Triage Consulting Group  
Turn Key  
Ubiqomm  
UCSD Information Technology  
Services  
UCSD Medical Center  
UCSD Research Administration  
UCSD Scripps Institute of  
Oceanography  
**United States Navy**  
United Technologies Aerospace  
Universal Hospital Services  
Uptake  
Veyo  
**ViaSat**  
Volcano  
**Vulcan Wireless**  
**Walt Disney Company**  
Webroot  
West Arbor Group  
Workday  
**Y8L Consulting**  
4Med Imaging Solution

# UC San Diego

GRCon17

- Master's Degrees for Engineering Professionals
  - Wireless Embedded Systems (2011)
  - Medical Device Engineering (2011)
  - Data Science and Engineering (2014)
  - Architecture-based Enterprise Systems Eng (2010)
- Two year, part-time programs, alternating weekends
- No GREs for admission
- “All-inclusive” tuition \$35K - \$40K
  - Books, materials, parking, meals, grad fees
- In-person, taught by UC Faculty
- Small classes (18-35)



Cognitive  
Radio

*Stay Technical.*

*Move Up.*

*Invent.*

*Never. Stop. Learning.*

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