

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Jepsen, Mary Lou

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: CEO, Founder & Chairman of the Board

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Brown University	Sc. B	05/1987	Electrical Engineering (with honors)
Massachusetts Institute of Technology, Media Lab	Sc. M	05/1989	Media Technology
Brown University	Ph.D.	1996	Optical Physics

A. Personal Statement

Mary Lou creates bold visions of the future, invents them, takes them through R&D and delivers them to product.

She has over 250 published patents and has shipped over 50 breakthrough products.

These products span fields including the best selling products ever created for virtual reality & augmented reality systems, to holography, flat screen television & monitors, laptops, smartphones, wearables, micro-displays, optical computing, diffractive optics as well as multi-media art like an effort she spearheaded to project video on the Moon.

Her current efforts are on a set of new breakthrough wearables for curing cancer, mental & neuro-degenerative diseases and stroke.

Previously she was Executive Director of Engineering at Facebook, Google, and a CTO at Intel. She also founded and built 4 startups, including One Laptop per Child which achieved multi-billion dollar revenues as a non-profit and transformed education opportunities in low- and middle-income countries through the laptop she architected and delivered to high volume mass production.

Previously she was a professor at the Massachusetts Institute of Technology (MIT) in computer hardware and prior to that a professor at the Royal Melbourne Institute of Technology (RMIT) in computer science in Melbourne, Australia.

She currently serves as a board director at two public companies: Lear Corporation - LEA (NYSE) a \$20B tier-1 automotive company; and Luminar Technologies LAZR (NASDAQ) the world leader in LiDAR systems. She has broad advisory experience including government level in Peru, Uruguay, China, Taiwan, Brazil, USA, the White House and the United Nations.

She has been recognized with many awards including: TIME magazine's "Time 100" as one of the 100 most influential people in the world; a CNN top 10 thinker; Forbes 50 over 50 as well as by the leading global scientific societies in optics, display and electronics. She's frequently been featured in the top global press publications and has been a frequent keynote speaker at large global events. She has given two TED talks - on the future of medical imaging - each with a million or more views.

B. Positions, Scientific Appointments, and Honors

Positions and Scientific Appointments

2016– Present	CEO, Founder & Chairman of Board, Openwater, San Francisco, CA
2022– Present	Director - School of Computing, Data Science and Society, Univ. of Cal Berkeley
2021– Present	Board Director - Luminar Technologies LAZR(NASDAQ)
2020– 2022	Director - Department of EECS, Univ of Cal, Berkeley
2016– Present	Board Director - Lear Corporation LEA(NYSE)
2016– Present	Director, IEEE Spectrum Editorial Board
2015 – 2016	Executive Director of Engineering, Facebook and Oculus, Menlo Park, CA
2012 – Present	Director - Engineering Advisory Board - School of Engineering, Brown University
2015 – 2016	National Academies of Engineering, Science & Medicine committee on women
2012 – 2015	Director of Engineering, Google, Mountain View, CA
2010 – 2012	American Chamber of Commerce in Taiwan - co-chair of tech. committee
2011 – 2013	Director - MEDCO (Express Scripts) Innovation Board
2008 – 2017	Anita Borg Institute awards committee chair
2008 – 2014	CEO, Founder & Chairman of Board, Pixel Qi, Taipei, Taiwan & San Bruno, CA
2005 – 2008	CTO and Co-Founder, One Laptop per Child, Cambridge, MA
2004 – 2007	Professor, Massachusetts Institute of Technology, Cambridge, MA
2004 – 2005	CTO, Intel Corporation, Display Division, Santa Clara, CA
1995 – 2003	CTO and Co-Founder, MicroDisplay Corporation, Richmond, CA
1998 – 1999	Senior Member of Technical Staff, Philips Research, NY

1991 – 1992	Senior Fellow, Kunsthochschule fuer Median Köln, Cologne, Germany
1990 – 1991	Professor of Computer Science RMIT, Melbourne Australia
1989 – 1990	San Diego Fellow, EECS, Univ of California, San Diego

Honors

2022	Forbes 50 over 50 Awardee
2019-21	World Economic Forum Technology Pioneer Award
2018	Forbes Top 50 women in technology
2008	TIME 100: named One of the 100 most influential people in world by Time Magazine
2018	Elected a Fellow of the Society for Information Display (SID)
2015	NBA (National Basketball Association)/Cisco Inspiring the Future Award
2014	Honorary Doctorate - Brown University
2013	CNN top 10 thinker
2012	Named to top 50 female computer scientists of all-time - the Anita Borg Institute
2012	Elected Fellow of the Optica/Optical Society of America
2011	Awarded the Edwin Land Medal - Optical Society of America
2011	Awarded the Anita Borg “Woman of Vision” Award for Innovation ¹
2011	Awarded the Brown Alumni Excellence in Engineering Medal - Brown University
2010	Won the Display of the Year Award - Society for Information Display (SID)
2010	Won the World Technology Award : for individual contributions to hardware
2010	Laptop Magazine: named 19th most influential person in mobile computing
2010	IEEE ACE Award Grand Prize for best emerging technology (awarded to Pixel Qi)
2010	Popular Science “Best of What’s New Award”- 2010 (sunlit screens w/ color & video)
2009	Best of Computex Award (Taiwan)
2008	WITI Hall of Fame Inductee (Women in Technology International)
2008	Horace Mann Medal - Brown University
2008	Design of the Year - London Design Museum's
2007	INDEX Design Award - €100,000 for OLPC XO laptop

2007	Mobile Innovation Award - Laptop Magazine
2006	Popular Science "Best of What's New Award" (for \$100 Laptop)
2006	One of "100 Top Ideas of the Year" - New York Times
2006	IF Product Design Award
1990	Popular Science "Best of What's New Award" (for Holographic Video System)

C. Contributions to Science & Technology

Patents & Papers:

Dr. Jepsen is inventor of over 250 published or issued patents as well as a couple of dozen of scientific papers. Much of her published work is in the form of patents and products. Details at <https://www.maryloujepsen.com/resume>

Presentations, Invited Talks, Keynotes

Numerous - more details at <https://www.maryloujepsen.com/resume>

Products (a sampler of notable products that Mary Lou led)

One Laptop per Child (OLPC) XO Laptop - Mary Lou architected the lowest cost laptop ever made, lowest power laptop ever made, first with retinal display resolution, first with sunlight readability and color with video, first with mesh networking to connect the laptops within 3 kilometers, first with long life LiFePh battery technology, and with a completely novel architecture where the motherboard is off most of the time while the screen self refreshes. It was a breakthrough in rugged, droppable, water resistance with a new OS which enabled children to use the laptop without being able to read or write. etc. This spearheaded the fastest growing consumer electronics category until that time ever recorded in the netbook which made \$30B for the laptop ecosystem, OLPC itself had more than a billion dollars in revenue.

Oculus Quest 2 Virtual Reality System - Mary Lou was the key architect of liquid crystal display & optics in this system that enabled mass high quality VR at low price points. Her architectures leapfrogged expensive and bulky OLED+optics in performance and cost in the earlier Oculus systems to enable by far the best selling VR system of all time. This unit made billions of dollars in revenue and even prompted Facebook to change its name to Meta! She also invented and architected a suite of AR/MR (augmented reality and mixed reality) in a sunglasses format with 180+ degree of viewing R/L and up/down with variable fovea resolution, large eye box and built in eye tracking in a sleek sunglasses format that can go to market in the near term.

Google Glass - Mary Lou was a key pioneer of this architecture with MicroDisplay and Micro-Optical in the late 1990s with an identical optical and display architecture to Google Glass 15 years early! At Google she oversaw technology directions for the entire program for Sergey Brin.

MicroDisplay Liquid Crystal on Silicon ASICs and SDKs - Pioneered this set of 22 LCOS units, with 4 controllers, 2 contrast couplers, 5 SDKs that enabled a generation of early virtual reality, augmented reality systems, Info systems (like Google Glass but in the 90s), smart phones, wrist watch videos, flat screen large area screens for televisions and monitors and pico-projectors. First to achieve production on LCOS world-wide in the late 1990s enabling the first true wearables with high quality displays in them running on not much of a battery.

Pixel Qi array of low power sunlight readable screens with color and video. Mary Lou invented and brought to mass production an array of breakthrough screens that went into laptops, tablets and smartphones from 2009-2014. These all had color, video, sunlight readability, well documented high fidelity text reliability, and delivered extreme low power and long battery life. They shipped into a few dozen different devices with different box manufacturers prior to Google acquiring the assets.