

Kyle J. Merrill

kylejmerrill@gmail.com

+1 801.874.4875

SUMMARY

Dynamic leader in engineering, product, and process development. International experience managing globally integrated engineering programs. Deep understanding of business, technology, and product development in commercial inkjet printing, micro-fluidics, printed electronics, optical storage, and semiconductor manufacturing. Passion for mentoring managers and leading cross-functional engineering teams to bridge business functions and exceed organizational expectations. Skilled at public communication and teaching using diverse delivery platforms including conventional classroom, web-based distance learning, and workshops.

PATENTS

Ink Jet Printing Apparatus and Method for Controlling Drop Shape	1999
Kyle John Merrill, US 6299270	
Recordable Medium with Template Pattern	2007
Andrew Koll, Kyle Merrill, David Leigh, US (Application) 20080261808	

EDUCATION

Statistics, M.S.	1990
SCHOOL	Brigham Young University, Provo, Utah, USA
THESIS	Median Range as an Estimator of the Standard Deviation in Control Charts
GPA	3.8 / 4.0
Statistics, B.S.	1989
SCHOOL	Brigham Young University, Provo, Utah, USA
EMPHASIS	Quality Science
GPA	3.7 / 4.0 Cum Laude

ACADEMIC EXPERIENCE

Professional in Residence, Utah Valley University *2016 - present*
Technology Management Department
Received UVU OTL Award for Best Delivery of an Online course (Spring 2018). Taught senior technology management courses including Reliability Engineering and Safety (Tech 4000), and Global, Ethical and Professional Issues in Technology (Tech 405G). Received excellent student evaluation rating **(SRI) average of 4.8 / 5.0**. Revised course materials in the CANVAS system. Converted Tech 4000 and Tech 405G from in-class format to hybrid and online respectively. Taught and improved Understanding Technology (Tech 1010) course face-to-face and online formats. Worked collaboratively with department faculty to improve teaching effectiveness, promote student success, and increase levels of student engagement.

Graduate Research Assistant, Brigham Young University

1989 – 1990

Statistics Department

Ranked variance estimates according to robustness in control charts with subgroups of size $n = 1$. Published results in Master's thesis, "The Median Range as an Estimator of Variance in Control Charts", 1990. Developed computer algorithms for generating balanced incomplete block designs used for a research project led by Dr. Bruce Collings.

Teaching Assistant, Brigham Young University

1988 - 1989

Statistics Department

In collaboration with faculty, developed learning activities and course materials for in-class experiments used in Quality Control and Design of Experiments courses. Tutored students in Math and Statistics.

INDUSTRIAL EXPERIENCE**R&D Section Manager at Large Format Printing Business, HP Inc.** (Barcelona, Spain) 2014 – 2016

Engineering manager for the mid-volume industrial segment of HP's \$400M Large Format Printing business. Led programs with a combined staff of over 80 engineers, contractors, and project managers. Defined future product roadmaps and led critical technology and product programs. Successfully launched the HP Latex 3100, 3500 and 1500 series large format printers reaching over 50% combined market share. Coordinated development teams in California, Puerto Rico, Singapore, Oregon, and Ireland.

Engineering Project Manager at Large Format Printing, HP Inc. (Barcelona, Spain) 2010 – 2014

Led print system development and integration for the HP Latex 3000 printer ensuring on-time development and delivery of printer system designs. Successful launch of the HP Latex 3000 printer system. Directed 15 engineers responsible for printer system development. Technology development lead for San Diego, California and Corvallis, Oregon based ink and print-head technology teams. Supported customer engagement, channel development, and direct sales through speaking and training events including training videos. Managed the Barcelona based Image Quality and Thermal Inkjet Test labs.

Engineering Project Manager at Specialty Printing Systems, HP Inc.

2006 – 2010

Led technology and business development for HP's industrial package coding products. Assembled a team of chemists and engineers to develop and test a range of new specialty ink products. Migrated ink manufacturing to rapid prototyping and scale-up facilities locally in Corvallis, OR. Led business negotiations with ink and hardware partners in the US & United Kingdom. Supported development and launch of CD/DVD labeling products using HP's inkjet technology. Advised senior management on the development of new business opportunities.

Business Development Manager at LightScribe, HP Inc.

2004 – 2006

Business and technology development for HP's LightScribe™ labeling technology. Led partner negotiations for consumer electronics and CD/DVD duplication programs. Held direct negotiations on joint development proposals with Philips, Toshiba, Samsung, LG, BenQ, Lite-On, Sony, and Scientific Atlanta. Led business and technology development for consumer electronics and commercial CD/DVD duplication. Guided cross-functional technology investigations, business model development and market exploration including: rapid prototyping, competitive analysis, technology demonstration, market research, partnering, and financial/business modeling. Successfully led LightScribe's implementation into HP's "Media Hub" product. Improved processes and infrastructure within the LightScribe Marking lab.

Engineering Project Manager at HP Inc.

1998-2004

- Led product development engineering for the Printed Electronics program to create low-cost, 'printed' electronic product concepts and prototypes. Managed system design, integration, testbed development, and process development activities.
- Led the Rapid Realization initiative for the Advanced Product and Devices Lab. Exceeded expectations by delivering 12 prototypes and product concept demonstrations within one year. These included several all-in-one home theater system prototypes, OLED display printing, 3D printing 'postprocessor', a medical inhaler based on inkjet technology, and a miniature fuel cell prototype for powering laptops.
- Project Manager and acting Section Manager for the Headland Interconnect Technology (HIT) and Reliability Tools Development (RTD) teams. Managed modeling, integration testing, resistor-life development, and reliability test tools development for the thermal ink-jet (TIJ 3) Long-Life reliability initiative.
- Led the TIJ3 Drop Directionality Team to deliver technology solutions for unprecedented dot placement accuracy of less than 10 μm on TIJ 3.0 oriflex Kapton based products.
- Led the Cyclone reliability engineering team. Hired staff. Developed reliability goals, metrics, and projects for delivering customer satisfaction and meet ROI goals for the Cyclone product.

Senior Engineer and Member of Technical Staff at HP Inc.

1997-1998

Team lead for the Print Quality Variability Team (PQVT) to increase end of line yields at launch (Week 0) from 5% to over 70%. Organized the team's efforts. Developed specifications and root cause understanding of End-of-Line failures. Developed a system model for drop directionality. Set specifications based on a mathematical 'system budget' approach. Led the Black Yield taskforce to improve the automatic print quality tester (APQT) reliability and increase yields for Zaphod black print-heads at the APQT station on the "I-Blaster" manufacturing line.

Engineer at HP Inc.

1995 – 1997

Technical contributor to the Scan-Axis Directionality team. Improved yield and understanding of the print uniformity class problem on edgefeed print-heads. Led a yield improvement team to find and eliminate causes of "rainbow" delamination in the intermediate assembly production area. Co-lead implementation of Zaphod Integrated Baseline Data (IBLD) testing. Improved print-head test accuracy using statistical gauge repeatability and reproducibility (R&R) studies.

Process Control Lead / Statistician at HP Inc.

1993 – 1995

Developed software tools and statistical methods for process control and improved quality across HP's Inkjet Business Unit (IJBU). These included creating a gauge repeatability and reproducibility (R&R) software tool to enable proper statistical estimation of variance components from measurement tools.

Industrial Training and Education

- Developed and delivered training courses in statistical methodology including a new course co-developed with Dr. Robert O'Donnell and Dr. Donald Lewis titled *Practical Data Analysis*.
- Developed and delivered training on-demand through a modular course in quality, basic statistics, and acceptance sampling for the Materials Quality Department.
- Selected a standard statistical analysis package (Minitab) and facilitated its delivery across multiple geographic sites.
- Developed detailed procedures and training materials for key elements of the IJBU Process Control Roadmap.
- Developed a *Failure Modes and Effects Analysis* (FMEA) course and training materials. Conducted FMEA workshop training sessions for teams in Corvallis, Oregon (FastFAB, Copernicus, Hobbes intermediate) and Singapore (silicon fab).

Mentoring and Consulting

- Provided hands-on process control consulting for engineers from major product development and manufacturing efforts including the Hobbes, Zaphod, Monet, Robin Hood, Calvin, and Triad programs.
- Consulted to develop and implement control plans for the Hobbes product line.
- Led the implementation of reliability engineering and safety methodology.
- Developed a process for reducing incoming inspection, and improving supplier quality.

Statistician at SEMATECH

1990 -- 1993

Employed statistical methods to cut raw wafer expenses over 50%. Developed and administered a statistical quality control strategy for qualifying fab equipment during SEMATECH's conversion from 6" to 8" wafers. Evaluated the performance of several silicon fabrication systems using statistical methods. These included an Applied Materials (AMAT 5000) tungsten film deposition system, and a GCA and SVGL photolithographic systems. Wrote user-friendly data analysis applications for generating engineering graphics, statistical analysis and data visualization using SAS and RS/1. Delivered training in analysis techniques for observational process data.

Quality Assurance Engineer at Smith MegaDiamond Inc.

1989

Responsible for manufacturing quality and customer assurance of product performance. Implemented a computer-based electronic data collection system and database to analyze process control data. Reduced process failure "scrap" rates with process capability studies and corrective action. Demonstrated cost savings and product improvement by designing and implementing a Statistical Process Control (SPC) system for the critical manufacturing processes.

Lab Technician at Smith MegaDiamond

1987 – 1988

Processed polycrystalline diamond (PCD) using chemical processes in a production laboratory.

TEACHING EXPERIENCE

Academic Courses Taught

Technology Management - Reliability Engineering and Safety	2016 - 2019
Technology Management - Global, Professional, and Ethical Issues	2017 - 2018
Technology Management - Technology Marketing and Customer Relationship Mgmt	2018
Technology Management - Technology and Human Life	2018
Technology Management - Understanding Technology	2016 - 2018

Short Courses Taught

Gen 3 Latex Ink Jet Technology	2014 - 2016
HP Thermal Inkjet vs. Piezo Printheads (Video presentation)	2016 - present
HP Latex Inks and Printheads (Video presentation)	2014 - present
Failure Modes and Effects Analysis (FMEA)	1996, 1997
Practical Data Analysis	1994, 1995
Statistical Design of Experiments (DOE)	1990, 1991, 1992
Personal Finance	1998, 1999

Mentoring Activities

HP New Manager Mentoring	2010-2016
HP Young Engineer Mentoring	1997-2016

Guest Lecturer

UVU TECH301R Technology Lecture Series	2017
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SERVICE / COMMITTEE ACTIVITIES

Innovation Fellows

Innovation Incubator 2018

Extracurricular Organizations

Boy Scouts of America volunteer leader 1990-present

SCHOLARSHIP

Professional Society Membership

American Statistical Association 1987-1995

American Society for Quality Control 1988-1995

Short Courses Taken

UVU Teaching Across Flexible Modes (OTL Pathway 3) 2018

BYU Summer Institute of Applied Statistics 2017, 2018

Great Manager Series 2015

Program Management 2014

Project Management 2009

LEAD Executive Management Training 2005

Franklin-Covey Project Management 2004

AWARDS & HONORS

UVU Office of Teaching and Learning "Best Online Course Delivery, 3rd Place" 2018

Management Performance Stock Award, HP Inc. 2005, 2007, 2008, 2012, 2013, 2015

Employee Appreciation Stock Award, HP Inc. *multiple* 1993-2016

Employee Appreciation Cash Award, HP Inc. *multiple* 1993-2016

Brigham Young University Full Academic Scholarship 1984, 1987

Congressional Appointment to Summer Scientific Seminar, Air Force Academy 1993

CERTIFICATIONS / AWARDS

UVU OTL Academy Award for Excellence in Online Course Delivery, 3rd Place 2018

UVU Teaching Across Flexible Modes (Online) Certificate 2018

FAA Commercial sUAS (Drone) Pilot Certification 2017

FCC Amateur Radio *Extra* Class License: AD7XP (active) 2011

LANGUAGES

English – Native

Spanish – Proficient

Norwegian – Advanced

German – Intermediate