CURRICULUM VITAE

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EDUCATION

1992 – 1997, *M.S. in Engineering-Economic Systems* and *Ph.D. in Engineering-Economic Systems & Operations Research*, Stanford University, Stanford, CA

1980 & 1987, *M.S. in Civil Engineering* and *MBA,* University of California, Berkeley, CA

1975 – 1979, *B.S. in Architecture with Honors,* California Polytechnic State University, San Luis Obispo, CA

PROFESSIONAL EXPERIENCE

January 2016 – Present, *Executive Vice President*, Compass Lexecon, Oakland, CA

April 2010 – January 2016, *Senior Vice President*, Economists Incorporated, San Francisco, CA

January 2002 – April 2010, *Principal*, Cornerstone Research, Inc., San Francisco, CA

January 2004 – March 2005, *Lecturer (Economics and Finance)*, Economics Department, University of California, Davis, CA

April 2001 – November 2001, *Manager* (Financial Advisory Services), PricewaterhouseCoopers LLP, San Francisco, CA

September 1997 – April 2001, *Managing Director*, Investment & Risk Analytics, Inc., Lafayette, CA

September 1994 – September 1997, *Consulting Researcher (Valuation of Financial Instruments)*, Prof. Darrell Duffie, Graduate School of Business, Stanford University, Palo Alto, CA

September 1993 – September 1997, *Teaching Assistant and Research Assistant*, Department of Engineering-Economic Systems, Stanford University, Stanford, CA

June 1989 – September 1993, *Engineering Manager*, Dames & Moore, San Francisco, CA

June 1980 – June 1989, *Project Manager*, Forell/Elsesser, Rutherford & Chekene and Paul F. Fratessa & Assoc., San Francisco, CA

TESTIMONY/EXPERT ASSIGNMENTS

2022-2024: *ESCO Group LLC v. Deere & Company*, 1:20-cv-01679-RGA, U.S. District Court for the District of Delaware. Kirkland & Ellis LLP, Chicago, IL. Retained by plaintiff and submitted expert report on damages in patent infringement matter involving technology for mechanical devices.

2022-2024: *XR Communications, LLC, dba Vivato Technologies, v. Ubiquiti Networks, Inc.*, 8:17-cv-01065, U.S. District Court for the Central District of California. Simpson Thacher Bartlett LLP, Palo Alto, CA. Retained by defendants and submitted expert report on damages in patent infringement matter involving Wi-Fi devices.

2022-2023: *Google LLC v. Sonos, Inc.*, 3:20-cv-06754-WHA, U.S. District Court for the Northern District of California. Quinn, Emanuel, Urquhart & Sullivan, LLP, San Francisco, CA. Retained by plaintiff and submitted expert report on damages in breach of contract and patent conversion matter involving cloud queue Wi-Fi technology.

2020-2021: *Alicia A. Cohen v. Ronald A. Cohen*, 19-1219-MN, U.S. District Court for the District of Delaware. K&L Gates LLP, Los Angeles, CA. Retained on behalf of plaintiff and submitted expert report on financial analysis of documents of defendant who was accused of sexual abuse of a minor and human trafficking.

2020: *Freedom Debt Relief, LLC v. Accredited Debt Relief, LLC, et al.*, 19-CIV-01019, Superior Court of the State of California for the County of San Mateo. Simpson Thacher & Bartlett LLP, Palo Alto, CA. Retained by defendant and cross-plaintiff, submitted expert report, and provided deposition testimony on damages in an alleged breach of contract matter between two debt relief companies.

2020: *Adenike Graham, et al., v. National Beverage Corp.*, 19-cv-873, U.S. District Court, Southern District of New York. K&L Gates LLP, San Francisco, CA. Economics expert on behalf of defendant in consumer class action matter involving alleged unfair and deceptive trade practices related to defendant's claims of "all natural" ingredients.

2020-2023: *Raffel Systems, LLC v. Man Wah Holdings Ltd., Inc., and Man Wah (USA), Inc.* 2:18-cv-01765, U.S District Court, Eastern District of Wisconsin. Mayer Brown LLP, Washington, D.C., and Arch & Lake LLP, Chicago, IL. Retained by defendant, submitted expert report, and provided deposition and trial testimony on damages involving claims of utility patent infringement, design patent infringement, trade dress infringement, false marking, false designation of origin, unjust enrichment, and breach of contract, among other claims, related to electro-mechanical devices.

2019-2021: *American River Nutrition, LLC v. Beijing Gingko Group Biological Technology Co., Ltd, et al.*, 8:18-cv-02201-JLS-JDE, U.S. District Court, Central District of California, and *American River Nutrition, LLC v. Kyäni, Inc.*, 4:19-cv-00255-REB, U.S. District Court, District of Idaho. Mayer Brown LLP, Washington, DC. Retained by defendants, submitted expert report, and provided deposition testimony on damages in patent infringement matters involving biological products.

2019: *Great-West Life & Annuity Insurance Company and FASCore, LLC. v. Perry Christie and Voya Financial, Inc.*, 2018-cv-32584, District Court, Arapahoe County, Colorado. Kellogg, Hansen, Todd, Figel & Frederick P.L.L.C., Washington, DC. Retained by Voya Financial and

submitted expert report on damages in breach of contract and misappropriation of trade secrets matter involving financial software services.

2019-2020: *In re EpiPen (Epinephrine Injection, USP) Marketing, Sales Practices and Anti-trust Litigation*, 2:17-md-2785 and 2:17-cv-2452, U.S. District Court, District of Kansas. Robbins, Russell, Englert, Orseck, Untereiner & Sauber LLP, Washington, DC. Retained by Mylan Inc. and Mylan Specialty L.P., submitted expert report, and provided deposition testimony on damages in a matter in which Sanofi-Aventis US, LLC is alleged to have made false and misleading representations in violation of the Lanham Act.

2018-2019: *Boltex Mfg. Co. and Weldbend Corp. v. Ulma Forja, S. Coop. a/k/a Ulma Piping and Ulma Piping USA Corp.*, 14:17-cv-1400, U.S. District Court, Southern District of Texas. Dechert LLP, New York, NY. Retained by defendant, submitted expert reports, provided deposition testimony, and testified at jury trial on damages in Lanham Act false advertising matter involving domestic and imported carbon steel flanges.

2018: *Desktop Metal, Inc. v. Markforged, Inc., et al.*, 1:18-cv-10524-WGY, U.S. District Court, District of Massachusetts. Quinn Emanuel Urquhart & Sullivan, LLP, San Francisco, CA. Retained by defendant and counterclaim plaintiff, submitted expert report, and provided deposition testimony on damages in patent infringement and misappropriation of trade secrets matter involving 3-D metal printers.

2016-2019: *SS&C Technologies, Inc. v. Bradley Rossa and Clearwater Analytics, LLC*, 2015-CH-15891, Circuit Court of Cook County, Illinois, County Department, Chancery Division. Kirkland & Ellis LLP, Chicago, IL. Retained by defendants, submitted expert reports, provided deposition testimony, and testified at jury trial on damages in misappropriation of trade secrets matter involving sales and marketing information in software industry.

2016-2018: *In re: Lenovo Adware Litigation*, 5:15-md-02624-RMW, U.S. District Court, Northern District of California, K&L Gates LLP, Los Angeles, CA. Retained by defendant and submitted expert report in consumer class action matter involving alleged consumer fraud related to computers.

2016: *DNA Genotek Inc. v. Spectrum Solutions L.L.C., et al.*, 3:16-cv-01544-JLS-NLS, U.S. District Court, Southern District of California. Simpson Thacher & Bartlett LLP, Palo Alto, CA. Retained by defendants, submitted expert report, and provided deposition testimony on patent infringement case involving medical devices.

2015-2016: *Alexander Stross v. Redfin Corp.*, 1:15-cv-223-SS, U.S. District Court, Western District of Texas. Foster Pepper PLLC, Seattle, WA. Retained by defendant and submitted expert report on damages in copyright infringement case involving photographs on real estate broker website.

2015-2016: *DNA Genotek Inc. v. Ancestry.com DNA, LLC*, 15-0355-SLR, and *DNA Genotek Inc., v. Spectrum DNA*, et al., 15-cv-00661-SLR, U.S. District Court, District of Delaware. Fenwick & West, LLP, San Francisco, CA. Retained by defendant, submitted expert report, and provided deposition testimony on patent infringement case involving medical devices.

2015-2016: Confidential matter before Copyright Royalty Judges. Drinker Biddle & Reath LLP, Washington, DC. Expert witness services on economic analysis of copyright licensing terms.

2015: *Changzhou Kaidi Electrical Co, Ltd., et al., v. Okin America, Inc., et al.*, U.S. District Court, District of Maryland, 1:13-cv-1798. Mayer Brown LLP, Washington, DC. Provided

expert report, deposition testimony, and testified at trial on behalf of accused infringer in patent infringement matter involving mechanical actuators.

2015: *The Cat Ball, LLC v. FurHaven Pet Products, Inc.*, U.S. District Court, Western District of Washington, 2:14-CV-00292-MJP. Foster Pepper PLLC, Seattle, CA. Retained by plaintiff, submitted expert report, and provided deposition testimony on economic damages in false advertising and unfair competition matter involving pet products.

2014-2015: *Matthew Burnett, et al., v. Robert Bosch LLC USA, et al.*, U.S. District Court, Middle District of Florida, 8:14-CV-01361. K&L Gates LLP, San Francisco, CA. Retained by defendant, submitted expert report, and provided deposition testimony on economic issues in class certification matter involving alleged misrepresentation of selected spark plugs.

2014-2015: *Michigan State University v. Medlen & Carroll, LLP, et al.*, U.S. District Court, Western District of Michigan, 1:14-cv-00039. Fraser Trebilcock Davis & Dunlap, P.C., Detroit, MI. Retained by plaintiff on legal malpractice mater involving alleged failure to file foreign patents related agricultural biotechnology.

2014-2015: *Isola USA Corp. v. Taiwan Union Technology Corp.*, U.S. District Court, District of Arizona, 2:12-cv-01361-SLG. K&L Gates, San Francisco, CA. Retained by defendant, submitted expert report, provided deposition testimony, and testified at trial on patent infringement matter involving laminates for multilayer printed circuit boards.

2013-2014: *JS Products, Inc. v. Kabo Tool Company, et al.*, U.S. District Court, District of Nevada, 2:11-cv-01856-RCJ-GWF. K&L Gates, LLP, San Francisco, CA. Damages expert in patent infringement suit involving tool industry technology.

2013: *Magnate International Ltd. v. Costco Wholesale Corp.*, U.S. District Court, Central District of California, 12-cv-09208-GW. Foster Pepper, PLLC, Seattle, WA. Damages expert in patent infringement suit involving pump technology.

2012-2015: *QS Wholesale, Inc. v. World Marketing Inc.*, U.S. District Court, Central District of California, 8:12-cv-00451-DOC-RNB. Covington & Burling LLP, Washington, DC. Provided expert report, deposition testimony, and testified at trial in trademark infringement suit involving trademark in apparel industry.

2012-2014: *Hart Scott Rodino IP Rulemaking*, Project No. P989316—Notice of Proposed Rulemaking Regarding Certain Licensing Transactions in Pharmaceutical Industry. Baker Botts L.L.P., Washington, DC. Submitted declaration addressing economic basis for proposed premerger notification rules related to exclusive patent licensing.

2012-2015: *TransUnion Intelligence LLC, et al. v. Search America, Inc.*, U.S. District Court, District of Minnesota, 0:11-cv-01075-PJS-LFN. Baker Hostetler, Costa Mesa, CA. Provided expert report and deposition testimony on economic issues in patent infringement suit involving software technology.

2011-2016: *Arkema Inc., et al. v. Honeywell International, Inc.*, U.S. District Court, Eastern District of Pennsylvania, 2:10-cv-02886-WY. Kirkland & Ellis LLP, Washington, DC. Retained by defendant, submitted expert report, and provided deposition testimony on economic issues in patent infringement matter (declaratory judgment and counterclaim patent infringement suit) involving chemical product.

2009-2010: *Angela Bates, et al. v. KB Home*, Superior Court of California, County of Alameda, RG-08- 384954. K&L Gates LLP, San Francisco, CA. Retained by defendant and submitted expert report rebutting plaintiffs' statistical analysis of plaintiffs' class certification theory for class action involving escrow instructions given to home buyers in California.

2009: *In re Patent of Hee Young Yun, et al.* U.S. Patent and Trademark Office, 90/008, 143, 145, 146, and 150. McKenna Long & Aldridge LLP, Washington, DC. Provided declaration addressing economic issues related to claimed commercial success of patents for liquid crystal display (LCD) modules as part of patent reexamination process.

2007-2008: *Quantum Systems Integrators, Inc. v. Sprint Nextel Corp.*, U.S. District Court, Eastern District of Virginia, 1:07-CV-00491. Crowell & Moring LLP, Washington, DC. Retained by defendant, submitted expert report, provided deposition testimony, and testified at trial on economic damages arising out of alleged infringement of copyrighted software.

2007: *Alvarado Hospital Medical Center, Inc. v. Alan Wittgrove, M.D.*, Superior Court of California, County of San Diego, GIC 827726. C. Matthew Didaleusky, Esq., Oakland, CA. Provided testimony at arbitration hearing on economic damages arising out of alleged breach of contract.

2007: *SCI California Funeral Services, Inc. v. Five Bridges Foundation*, Superior Court of California, County of San Mateo, CIV 432392. Shartsis Friese LLP, San Francisco, CA. Provided deposition testimony on economic issues related to valuation of provisions in real estate agreement.

2006-2007: *DVD Copy Control Association, Inc. v. Kaleidescape, Inc.*, Superior Court of California, County of Santa Clara, 104CV031929. White & Case LLP, Palo Alto, CA. Provided testimony on economic damages arising out of alleged breach of contract by licensee of proprietary DVD technology.

2005: Confidential Real Estate Co. v. Confidential Law Firm, private arbitration. Nixon Peabody LLP, San Francisco, CA. Provided expert report, deposition testimony, and testified at arbitration on economic damages related to valuation of multiple appraisals for real estate leasehold contract.

2003: *Eco-Steel Fabrication, Inc. v. Markol Iron, et al.*, Superior Court of California, County of Orange. Miller, Brown & Dannis, San Francisco, CA. Provided expert report and testified at mediation on economic damages resulting from delayed construction of luxury car dealership in southern California.

PUBLICATIONS

Varner, Thomas R. & Hnath, G. M., "Patent Valuation Analysis—Patent Forward Citations and Patent Quality," retrieved from https://mp.weixin.qq.com/s/ShSYr8pOmX8igQucVcYriA, 2018, September 3.

Hnath, Gary, Jing Zhang and Thomas R. Varner, "Patent Forward Citations and Patent Quality," *Asia IP & TMT: Quarterly Review*, Second Quarter 2018.

Varner, Thomas R., "Federal Circuit Again Scrutinizes Reasonable Royalties in Patent Damages in *VirnetX v. Cisco Systems and Apple,*" *The Economists Ink*, Winter 2015.

Varner, Thomas R., "Nash Bargaining May Not Be Right for Patent Damages," *Law360*, April 18, 2014.

Varner, Thomas R., "Empirical Data on 'Comparable Licenses' in Patent Infringement Suits," *The Economists Ink*, Fall 2012.

Varner, Thomas R., "An Economic Perspective on Patent Licensing Structure and Provisions," *Business Economics*, Vol. 46 (4), October 2011.

Varner, Thomas R., "*Uniloc* and the Demise of the 25 Percent Rule," *The Economists Ink*, Spring 2011.

Varner, Thomas R., "Technology Royalty Rates in SEC Filings," *les Nouvelles*, Journal of the Licensing Executives Society International, Vol. XLV, No. 3, September 2010, pp. 120-127.

Varner, Thomas R., "Reasonable Royalties and 'Comparable Licenses': Three Recent Court Rulings," *The Economists Ink*, Spring 2010.

PROFESSIONAL AFFILIATIONS

Member, Licensing Executives Society, USA & Canada

Member, American Economic Association

Member, National Association for Business Economists

Associate Member, American Bar Association (IP Law Section)

OTHER

Speaker on economics, damages, and technology licensing issues at Licensing Executives Society (LES), American Law Institute/American Bar Association (ALI/ABA), and Law Seminars International (LSI) seminars and conferences.

Licensed Civil Engineer and Licensed Structural Engineer (Inactive), State of California

Certificate in Hazardous Materials Management, University of California, Davis, 1990

Ph.D. Dissertation: *Strategic Investment Analysis: A Study of Indirect Effects in Optimal Portfolio Selection*, 1997