
Education

A.M. in Physics, Harvard University *Cambridge, MA 9/2007-6/2008*

- Earned through the AB/AM four-year Advanced Standing Program (< 3% of Class)
- Graduate courses included quantum field theory, cosmology, general relativity, and partial differential equations

A.B. in Joint Visual & Environmental Studies (VES - Studio Art) and Physics, Harvard University, cum laude with Highest Honors, GPA: 3.7/4.0 *Cambridge, MA 9/2004-6/2008*

- *Summa* in joint VES and Physics undergraduate thesis, “Explorations in Classical Magnetism and Contemporary Art— Ambient Magnetic Dipoles: Amplified Mapping of Dipole Moments Through Magnetoresistance Sensors, Analog Differentiation Techniques and Ferromagnetic Fluids and Experiments in Painting with Magnetism”
- Rudolf Arnheim Prize for the most significant interdisciplinary work (2008); the first joint VES and Physics concentrator in Harvard history
- Chinese Language Citation; advanced Chinese courses in business Chinese and Modern Chinese Literature; HSK Level 6, sufficient for all graduate studies in China (2005)
- Graduate seminars included the Theory of Spectatorship in Art History and advanced research in History of Science

Harvard Asia Center Fellow, Beijing Cultural and Language University (北京语言大学) *Beijing, China 6/2005-8/2005*

Columbia University Science Honors Program *New York, NY 9/2002-6/2003*

Industry Experience

Business Analyst (Consultant), McKinsey & Company *London, UK 9/2008- Present*

- Served a major global pharmaceutical company in a multibillion dollar joint venture – personally presented to the JV CEO on organizational structure; liaised with investment bank to validate valuation model; led 3 teams across 20 countries in determining P&L baseline and synergies and engaged in one-on-one discussions with JV CFO to discuss deal finance strategy; developed reports presented to the CEO, CFO, and executive board of both parent companies
- Served a large UK-based global bank in restructuring its corporate and commercial banking division (assets totaled £50B+) after its nationalization due to the 2008/09 Financial Crisis, provided recommendations for balance sheet management and related organization reshaping; coordinated strategies to balance efforts of national economic recovery, the Bank’s long-term growth and credit risk control.
- Engaged in due diligence and integration strategy for the largest M&A endeavor of a leading global mining corporation, involved creatively gathering outside-in information regarding the target company, built a comprehensive quantitative model to assess the target’s organizational structure and potential merger synergies, results presented to CEO
- Performed research in “Mergers as Transformation”, resulted article to be published by major business journals
- Participated graduate recruiting by coaching interview skills to candidates and providing advice to high potentials

Workshop Leader, McKinsey Step-Up Programme *London, UK 12/2008 – Present*

- Served several social enterprises & charities as a pro-bono initiative to alleviate child poverty in London
- Led workshops for over ten organizations on public funding commissioning strategy

Physics Experience

Visiting Fellow, Hinds Lab, Centre for Cold Atoms at Imperial College London *London, UK 9/2009 - Present*

- Electron Electric Dipole (eEDM) Experiment on detecting electron substructure to test beyond the Standard Model
- Designing gas-based coolant and containment system for ionic molecules used for eEDM detection

Harvard College Research Fellow, ATRAP Collaboration at CERN, (European Organization for Nuclear Research) *Geneva, Switzerland 6/2007 - 8/2007*

- Primary goal to trap ultra-cold anti-hydrogen and test CPT Invariance (fundamental differences between matter and antimatter) with precision spectroscopy using the Penning-Ioffe Trap
- Repaired and designed sensitive positron detectors and created low pressure vacuum systems
- Additional experience in anti-proton beam control, magnetic field modeling, and low energy physics

Harvard College Research Fellow, Gabrielse Lab, Harvard Physics Department *Cambridge, MA 6/2006 - 5/2007*

- Proton-Spin Experiment to make precise measurements on the fine structure constant, α
- Led the repair of a 6 Tesla superconducting magnet and detected the malfunction; designed and successfully carried out an experiment to test the super-conductivity of spot-welded wire joints and repaired the wire joints

Course Assistant, Harvard Mathematics Department *Cambridge, MA 9/2005 - 1/2006*

- Held weekly review sessions, graded daily assignments, and led class discussions for over 20 students
- Mathematics 21a – Multivariable Calculus and Linear Algebra I, topics included Stokes Theorem, Green’s Theorem, Implicit Function Theorem, linear algebra and basic applications and proofs to multivariable calculus

Visual Arts Practice

Professional Artist, Graphic and Fashion Designer, *New York, London, and Boston 3/2004 - Present*
Lewis Z. Liu Studios, www.LewisZLiu.com

- Focusing on artwork with classical media, avant-garde conceptual art, & physics/art integration
- *Co-Founder* of a fashion venture, *Lewis Z. Liu for Baruch Shemtov*, producing and marketing a new patented fabric and tie design technique using magnetism and silkscreen to be sold through online and luxury retailers
- Global and diverse client base including academic institutions, corporations, private clients, and non-profits
- Collaborating with London based art co-op *WorkingRooms* to provide science and art education to young people through work based on physics/art integration

Harvard College Tuesday Magazine, www.Tuesdaymagazine.org *Cambridge MA 9/2004 - Present*

- Recognized for highest achievement of a collegiate publication: 2004 and 2005 Columbia University Scholastic Press Association's Gold Crown Winner, 2006 Scholastic Collegiate Pacemaker Finalist
- *President and Founder*, Board of Trustees, currently leading fundraising for a new endowment (with over \$10k pledged for 2009) and developing the organization's alumni community (6/2007 - Present)
- *Art Board Founder, Director and Head Curator* (9/2005 - 5/2007)
- Organization grew from 17 staff (2004) to 48 (2008), now a significant part of the Harvard community with 40+ staff

Founder and Artistic Director, Harvard College Art Society *Cambridge, MA 9/2006 - 6/2008*

- A campus-wide organization dedicated to expanding and strengthening the artistic community at Harvard and beyond
- Curated several art exhibitions, ran the annual Arts First Art Walk

Selected Activities & Organizations

Advisor to the Board, Teach with Africa *San Francisco and South Africa 8/2009 - Present*

- Objective of the Charity is to send US professionals to train South Africa teachers on critical educational issues
- Leading the assessment of the Charity's impact with qualitative and statistical analysis with a team of 3; advising the funding and financing strategy through discussions with the Chairman, CEO, and Board Members

Admissions Interviewer, The Harvard Club of UK *London, UK 10/2008 - Present*

- Interviewing applicants in the Greater London area for Harvard College admissions
- Engaging in outreach of US college applicants from unprivileged communities through the Renaissance Foundation

Significant Previous Activities:

- Harvard Men's Club Tennis *Cambridge, MA 9/2007 - 6/2008*
- Pit Orchestra Violin Player for Harvard Student Performances *Cambridge, MA 4/2005 - 11/2007*
- Harvard Men's Cross-Country, NCAA Division I *Cambridge, MA 9/2004 - 1/2005*
- The League of Women's Voter of New Jersey Intern *Millburn, NJ 4/2001 - 1/2005*

Selected Publications, Exhibitions & Patents

Liu, Lewis, "Techniques for two dimensional permanent mark-making using physical magnetic fields with the application of silk-screening or acrylic paints," US Provisional Patent No 61/205,002

Carey, Susan, *The Origin of Concepts*, New York: Oxford University Press, 2009 – Illustrator & Graphic Designer

Liu, Lewis, Excerpt from "Explorations in Magnetism and Contemporary Art" Harvard Advocate, Spring 2008 Issue

Liu, Lewis, "Physics, Art, and AI: Compositional Aesthetics Through Integrated Electrodynamics." Harvard College Tuesday Magazine, Vol 3 Issue 1, 2005

Harvard Office of the Arts (OFA) Painting Loan *Cambridge, MA 6/2008-Present*

- Artwork selected by the OFA for a one year loan for outstanding paintings

Harvard VES Department Senior Thesis Exhibition *Cambridge, MA 5/2008-6/2008*

- Carpenter Center for the Visual Arts, granted central space at Main Gallery and Sert Gallery
- "Amplified Magnetic Dipoles" featured and received positive reviews in *ArtScope*, 5/2008 Issue

Harvard VES Department Double Hung Student Exhibition *Cambridge, MA 1/2005, 1/2006, 1/2007*

- An undergraduate art show selected by the Harvard VES Department for the best piece in each VES class
- First VES student to be selected three years in a row

Additional Skills and Interests

Computer Skills: C++, VB, HTML, JavaScript, CSS, Mathematica, MatLab, Minitab, Adobe Photoshop, and MS Office

Languages: Native fluency in English and Chinese (Mandarin), Basic Spanish

Leisure: Ballroom dancing, skiing, cooking, classical music, and literature