



Educator

Engineer

Experience

2005– **Winchester High School** Winchester MA

- **Licensed** Massachusetts Teacher — Mathematics Grade 5 - 12, Technology / Engineering Grade 5 - 12, General Science Grade 1 - 8.
- Taught various geometry and integrated mathematics courses in grades 9 - 12.
- Taught *AP Computer Science* (12 years, plus summer school at *Phillips Academy Andover*). Taught *AP Computer Science Principles Mobile CSP* (2 years). Taught *Exploring Computer Science* (1 year). Taught *On-Line Advanced Computer Science* (5 years).
- Held position of *Technology / Engineering Coordinator*. Taught *Engineering the Future* and robotics. Had budgetary responsibility and leadership responsibility for four staff. (5 years)
- Held position of *STEM Coordinator* for Winchester public schools. Promoted STEM teaching and learning K-12 (5 years).
- Coached *Winchester Robotics Team*, including *BotsIQ* (5 years), *NRL* (3 years), *Botball* (7 years), and *USFirst Tech Challenge* (1 year). Winchester Robotics Team was 2015 *Botball global champions*.
- Mentored students in engineering (*Real World Design Challenge*, 5 years). Winchester RWDC team Flight 01890 was 2014 & 2018 *MA state champions*.
- Mentored students in entrepreneurship (*Technovation Challenge*, 3 years, *YouthCITIES mini-hacks*, 4 years, and Winchester Entrepreneurship Club, 2 years). Winchester Technovation teams were 2014 & 2015 *global finalists* (as chronicled in the *CODEGIRL* documentary film).
- Co-mentored *Winchester Computer Science Club* (3 years), including *ACSL*, *USACO*, and *WPI High School Programming* competitions.
- Advised students in *Winchester Advisory Group* program (4 years).
- Maintained *website* of resources, assignments, and grades.

2004– **John M. Tobin School** Cambridge MA

2003– **MassBay Consulting, LLC** Cambridge MA

Co-founded consulting company developing software-based voice products for wireless broadband devices used by businesses and consumers. Held position of *Managing Director*.

2009 **EnglishCentral.com** Lexington MA

Developed language-modeling software for language-learning website. Held position of *Senior Software Engineer*.

2007– **Virtual Research Associates, Inc.** Weston MA

Developed software for ingestion and analysis of wire-service news articles for phase one of *Integrated Conflict Early Warning System* DARPA program. Held position of *Senior Software Engineer*.

1996– **ScanSoft® ‡ (née Lernout & Hauspie † (née Dragon Systems, Inc.))** Waltham MA

- Held position of *Director of Development, AudioMining™*. Directed development of ScanSoft's *AudioMining™* product line, including successful semi-annual releases of *Dragon MediaIndexer™* and *AudioMining Development System*. Was instrumental in transfer of L&H *AudioMining* assets to ScanSoft. Supervised work of ten developers and co-directed product delivery team.
- Held position of *Manager, Telephony Development*. Managed Dragon's efforts in over-the-telephone speech recognition — applying Dragon's dictation engine to short-message-service dictation. Supervised work of four engineers.
- Held position of *Senior Telephony Engineer* in Dragon's *Portable Products Group*. Developed distributed, embedded

- Taught grade 8 mathematics using [Connected Mathematics Program](#); pioneered lesson design and teaching with interactive white board.
- Conducted grade 7 homeroom; taught weekly grade 7 math study skills class; served as advisor to grade 7 students; facilitated weekly buddy groups; was active member of middle-school cluster.
- Developed middle school parent communication database; maintained [website](#) of assignments and grades.
- Assisted middle-school science teacher with grade 7 & 8 science classes (3 semesters).

1993–2003 **Cambridge Public Schools** Cambridge MA

Science and Mathematics volunteer:

- Volunteered for in-class projects in grades K - 8, John M. Tobin School (11 years), including solar car design challenge (4 years), which became part of the citywide grade 6 science curriculum, and electric circuits (5 years), including working with grade 4 to create Tobin's electronic map.
- Volunteered for after-school 7 - 8 algebra enrichment and support (2 semesters).
- Co-taught Tobin Tech Team after-school computer club (1 semester).
- Member and co-chair of Tobin PTO Science & Technology Committee (11 years); instituted science programs, wrote grants (e.g. \$20,000 Toyota TAPESTRY), and supported teachers and specialists.
- Parent participant in Tobin restructuring process (2 years).
- Member of citywide Cambridge Public Schools Science Advisory Group (1 year).

dictation system. Computer languages used: Python, Java, C++, UML.

- † On 2000/06/07, Dragon was [acquired](#) by L&H.
- ‡ On 2001/12/12, L&H was [acquired](#) by ScanSoft.
- On 2005/05/09, ScanSoft [merged](#) with Nuance.

1980–95 **Previous Experience** Cambridge MA

- As *Director of Engineering*, helped found telecommunications manufacturing company, Telelogic, Inc.† Co-designed company's major product line, trunk-side least-cost-routing autodials, of which there were 400,000 in use.
- As *Director of Engineering*, helped found product development consulting company, digiTel, Inc. Oversaw development of TEX family of videotex decoders for the Norwegian and Swedish public telephone companies. Designed and implemented digital electronics and software for Siemens videotex decoder infrared keyboard.

† Not the [Telelogic](#) division of IBM.

Education

2011 **University of Massachusetts Lowell** Lowell MA

Masters of Education in Curriculum and Instruction: Mathematics, December, 2011.

1986 **Massachusetts Institute of Technology** Cambridge MA

Bachelor of Science in Electrical Engineering, June, 1986. Implemented a computer graphics program in PL/I to age facial images for Architecture Machine Group (now called the Media Lab). Thesis titled *Explorations in Combinatorial Dynamics*, an evaluation of the Novix NC4000 Forth microprocessor for experiments in Information Mechanics. Computer languages studied: LISP, C, PL/I, Pascal, Algol, FORTRAN, and mini and microcomputer assembly languages. Humanities concentration in music.

Awards

2014 Massachusetts Technology Leadership Council *Distinguished Leadership Award*.

Patents

1984/06/08 United States Patent No. [4,447,676](#). Harris, Jackson and Petty. *Automatic dialer for telephone network access control*.

2006/02/21 United States Patent No. [7,003,456](#). Gillick, *et al.*. *Methods and systems of routing utterances based on confidence estimates*.

Affiliations

Member of Winchester Education Association, Massachusetts Teachers Association, and National Education Association.

Member of Computer Science Teachers Association (Co-President of CSTA Greater Boston Chapter), National Council of Teachers of Mathematics, International Technology and Engineering Educators Association.

Founding participant in [Knowledge Home](#) initiative.

Member of Association for Computing Machinery and member of Institute of Electrical and Electronics Engineers.

Former Member of Board of Directors of Forth Interest Group. Member of [ANS X3J14](#) technical sub-committee for standardization of the Forth development environment. Also member of Forth Standards Team, precursor to X3J14 and promulgator of FORTH-83. Ten-year participant in Forth Modification Laboratory. Six-year participant in Rochester Forth Conference.

References

Available upon request.

Transcripts

Available upon request.

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