David C. Petty
Box 400222
Cambridge MA 02140–0003 USA
https://dcpetty.github.io/cv/
+1.772.444.2710
dcpetty @psb-david-petty @psb_david_petty @psb_david_petty http://j.mp/psb_david_petty

WORK HISTORY

# EDUCATOR

**Brookline High School** Brookline MA 2018–

**Teacher**

- Licensed Massachusetts Teacher — Digital Literacy & Computer Science grade 8–12, Mathematics grade 5–12, Technology / Engineering grade 5–12, General Science grade 1 - 8.
- Taught *AP Computer Science Principles* Mobile CSP (2 years). Taught *Exploring Computer Science* (2 years). Taught *Java Programming* (2 years). Taught *WWW Design* (2 years).
- Taught *Autonomous Robotics* (1 year).

**Coach / Mentor**

- Coached Botball (1 year).
- Mentored students in entrepreneurship (Technovation Challenge, 2 years and YouthCITIES mini-hacks, 2 years).
- Maintained website of resources, assignments, and grades.

**Winchester High School** Winchester MA 2005–18

**Teacher**

- Taught various geometry and integrated mathematics courses in grades 9 - 12 (13 years).
- Taught *AP Computer Science A* (12 years, plus summer school at Phillips Academy Andover). Taught *AP Computer Science Principles* Mobile CSP (2 years). Taught *On-Line Advanced Computer Science* (5 years). Taught *Exploring Computer Science* (1 year).
- Taught *Engineering the Future* (5 years). Taught *Robotics* (??? years).

**Coordinator**

- Held position of *Technology / Engineering Coordinator*. Had budgetary responsibility and leadership responsibility for five staff. (5 years)
- Held position of *STEM Coordinator* for Winchester public schools. Promoted STEM teaching and learning K-12 (5 years).

**Coach / Mentor**

- 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, 4 years, YouthCITIES mini-hacks, 5 years, and Winchester Entrepreneurship Club, 2 years). Winchester Technovation teams were 2014 & 2015 global finalists (as chronicled in the CODE**GIRL** 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.

**John M. Tobin School** Cambridge MA 2004–05

**Teacher**

- 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.

# ENGINEER

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

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

**EnglishCentral.com** Lexington MA 2009

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

**Virtual Research Associates** Weston MA 2007–08

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*.

**ScanSoft®‡ (née Lernout & Hauspie† (née Dragon Systems) )** Burlington MA 1996–2003

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 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.

**Previous Experience** Cambridge MA 1980–95

- As *Director of Engineering*, helped found telecommunications manufacturing company, Telelogic, Inc.† Co-designed company's major product line, trunk-side least-cost-routing autodialers, 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.

- Assisted middle-school science teacher with grade 7 & 8 science classes (3 semesters).

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

**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).

## EDUCATION

**University of Massachusetts Lowell** Lowell MA 2011

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

**Massachusetts Institute of Technology** Cambridge MA 1986

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

Massachusetts Technology Leadership Council *Distinguished Leadership Award*. 2014

## PATENTS

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

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

## AFFILIATIONS

Member of Brookline Educators Union, Massachusetts Teachers Association, and National Education Association.

Member of Computer Science Teachers Association (Co-President of CSTA Greater Boston Chapter, 6 years), 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.