David A. Smith

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Programmer and videographer
- I make videos on programming in x86 machine language

Virtual Construction Application Developer
Sundt Construction, Tempe AZ
- Wrote and implemented algorithms to design cost-optimal structures
- Wrote basic productivity applications

Programmer
- Wrote system software and mathematical applications in Forth

Data Scientist
Quid Inc., San Francisco CA
- Wrote fast C-code variations on known methods of partitioning the vertex set of a weighted similarity graph
- Created Python tools with NetworkX and heuristic algorithms to compare partitions; and with SciPy to compare search result lists
- Visualized both kinds of comparison with PostScript plots made automatically
- Developed a method to infer associations between vertex labels in graphs described in US patent 9710544
- Wrote technical evaluations of free and commercial natural language proc. software

Software Engineer
Newfield Wireless, Berkeley CA
- Wrote C++ server software

Programmer
Semel Institute for Neuroscience at UCLA
- Processed large genomic data sets on the Hoffman2 cluster (Unix)
- Implemented graph algorithms in Python

Lead Software Engineer
Mitretek Systems, Falls Church VA
- Wrote public key infrastructure software in C++ for federal agencies
- Built an LDAP spider for X.509 cross-certificate webs using the Boost Graph Lib.

Software Engineer
Leverage Information Systems, SF CA
- Wrote Java server software for high-volume web sites with Linux, Apache, and MySQL
- Contributed to the open-source Locomotive Application Server

Software Designer
Tandem Computers, Cupertino CA
- Developed an intraweb document management application in Perl and C

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Passed actuarial exam P

Instructor
California State University, East Bay
- Taught Math 2150, an introduction to Discrete Mathematics for students of Computer Science

Visiting Assistant Professor
Grand Valley State University
- Taught linear algebra, differential equations, and calculus
- Developed weekly computational exercises for calculus students

Ph.D. Mathematics
Teaching & Research Assistant
Arizona State University
- Dissertation: The first-fit algorithm uses many colors on some interval graphs
- Used GLPK, Matlab, Maple, Sage, Python, Tk, Haskell, and C
- Taught Discrete Mathematical Structures to computer science students
- Supervised an undergraduate honors project involving Java programming

M.S. Mathematics
Lecturer, Teaching Associate
California State University, Long Beach
- Graduate Dean's List of Scholars and Artists
- Taught Calculus 2 and 3 to computer science students

B.S. Mathematics
California Institute of Technology
- Studied manipulation in voting with computer programs in C
- Assisted in developing a novel application of optical fibers for the Mars 94 Oxidant Experiment