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## BEN HOYT'S CV / RESUME

**Intro:** I currently work for [Oyster.com](#) in New York City, so I'm not looking for work at the moment, but feel free to get in touch with [Brush Technology](#) if you need a software project done.

### SUMMARY

I'm a software engineer with eight years of experience designing and developing web applications and embedded firmware. I'm fluent in Python, C, C++, HTML+CSS, and English. I learn quickly, care about detail, and love computers and mathematics.

### SKILLS: WHAT I DO...

- Develop **web applications** that perform well and are easy to use. I've used various databases, and I'm familiar with scaling and caching issues.
- Create **embedded firmware** for data loggers, control systems and other electronic devices, using 16-bit and 32-bit microcontrollers. I'm familiar with many comms protocols, such as CAN, J1939, SPI, and IP.
- Write **desktop tools** and automated test software.
- Administer **web servers** and networking tools on Windows or Linux.
- **Communicate and document** effectively and relate well to people. I also design, write specifications for, and manage projects.

I'm fluent in Python, C, C++, HTML+CSS, and English. I've also done a fair bit in C#, JavaScript, SQL, PHP, and various assembly languages.

### EXPERIENCE

At [Brush Technology](#) I've been a software engineer and co-director since August 2006. Some of the things I've done are:

- Co-founded and designed the [microPledge](#) crowd funding website, and developed about a third of its codebase (in Python and PostgreSQL). microPledge implements secure financial transactions, advanced Ajax-based voting, and it scales to thousands of campaigns and users.
- Designed and implemented [Gifty](#), a website that helps couples make wedding gift registries (again using Python and PostgreSQL). Promoting Gifty gave me experience with internet advertising and e-commerce.
- Embedded programming in C++, automated testing in Python, and developing GUI tools for [Hamilton Jet's](#) large-scale jet control systems.
- Cellular telemetry firmware and GPS interfacing using 8-bit and ARM7 micros for [Baycity Technologies](#) and [ILR](#).

- Co-authored several small [open source projects](#) including a Python-based build tool and a row-object mapper for web.py. Wrote articles for our [programming blog](#), for example, on [Knuth](#), [protothreads](#), and [bloatware](#).
- Managed projects and staff, and am heavily involved with the company's business planning and decisions.

At [Harvest Electronics](#) I was a software engineer from October 2002 to July 2006, and I:

- Designed and developed the [web and admin interface](#) for their solar-powered weather stations – the clean UI and weather graphs really made Harvest's product stand out. I wrote software to interface to the GPRS modems and administered associated databases and web servers.
- Wrote embedded firmware in C and assembler for MSP430 and ARM7 micros, including low-level boot loaders, serial and radio comms, digital audio, and I/O control logic.
- Developed various network and serial comms tools in C, C++, and Python. Worked heavily with the Win32 API.

At [VMSL](#) (between years at university, summers 2000 to 2002) I developed embedded firmware in C and HC11 assembler and tested software for their vending machine controllers.

## EDUCATION

I have a B.E. in electrical and computer engineering, and graduated from the [University of Canterbury](#) in 2002 with first class honors, [GPA](#) 7.9/9. For my final-year project I designed a small stack-based CPU in VHDL.

## ABOUT ME

My dad taught me how to program by teaching me the Tao of [Forth](#). Two of my first projects were writing a Forth compiler in x86 assembly, and then writing a small 32-bit OS in my Forth. I love things small, fast, and light – and that's paid off, especially in my embedded work.

Other than that, I edited and designed a [small-scale magazine](#). I'm into unicycling, typography, and piano. I aim to keep the commandments, but you may find me breaking the conventions.

## REFERENCES

- Michael Hope, software engineer who led the team at Hamilton Jet. Now director of [Seabright Technology](#).
- Peter Munn, owner of [Harvest Electronics](#).
- Derek Cressy, mechanical engineer and long-time friend. His mobile number is +64 27 482 2155.

*I have also discovered a truly marvelous proof of Hofstadter's Law, but unfortunately this margin is too narrow to contain it.*