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Aliens in the Apple

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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

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

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.