
Eli Brandt

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Work Experience

Software engineer

7/03 to 1/04

BondHub, Inc.

Added support for certificates of deposit to BondHub's trading site. (Full lifecycle.)

Redesigned database schema in ERwin; wrote SQL scripts to apply changes to the server.

Learned existing codebase and modified it: XSL, three-tier VB.NET/C#, stored procedures.

Worked with a partner to fetch their CD inventory, parse it, and load it, through a new API.

Developed and executed the database part of the plan for weekend deployment of this version.

Urgently analyzed and patched bugs discovered after the release.

Wrote an ASP.NET web app for the trading desk to enter descriptive data for agency securities.

Developed a Windows service to listen and respond to a partner's real-time data feed via TCP.

Summer intern

5/98 to 8/98, 5/99 to 8/99, 5/00 to 8/00

IBM Research, Computer Music group

Worked with end users to create a novel kind of tool for film-score composition.

Designed and built the data-browsing component of this tool, using Qt.

Extended the type system of the real-time visual language Sonnet, using C++ STL and COM.

Analyzed MIDI timing over alternative physical layers.

Graduate assistant, CMU CS

1/98 to 5/98 (this particular work)

Ported Aura (a multithreaded real-time distributed object system written in C++) from

Win32-only to Irix, for use in an interactive multimedia show at the Pittsburgh Science Center.

Summer intern

5/97 to 8/97

Microsoft Research, User Interface group

Adapted old software to use current audio and timing APIs.

Developed research platform for streaming audio synthesis.

Created parametric synthesis models of rain, sleet, and other environmental sounds.

Skills

Communication

Maintained relationships and coordinated systems integrations with BondHub inventory providers.

Wrote PhD dissertation; prepared a thesis defense presentation.

Gave half a dozen talks at international conferences.

Technical

Languages known: C++, C, SQL, C#, Visual Basic.NET, Fortran, Matlab, APL, Perl.

Web development: HTML, XML, XSL, ASP.NET.

Databases: SQL Server 2000, ERwin 3.5.

Frameworks and APIs: Unix and Win32 systems APIs, .NET, COM, C++ STL.

Areas of experience: three-tier client/server, real-time systems, threads, UI development, OOP.

Organizational

Self-scheduled adding CDs to BondHub, while training myself in several technologies involved.

Planned and executed thesis work over several years.

Education

Ph.D., Computer Science

8/95 to 7/02

Carnegie Mellon University

Completed Ph.D. in July 2002: designing programming languages for handling time-structured data.

B.S., Mathematics

9/91 to 5/95

Harvey Mudd College

Graduated with high honors, commendation in mathematics, commendation in humanities.

Refereed Publications

Eight papers (five as first or sole author) on domain-specific programming languages, real-time and distributed systems, MIDI performance measurement, signal processing, and parallel computing.

Citations on request, or see <<http://www-2.cs.cmu.edu/~eli/professional.html>>.

Interests

Didjeridu, scuba diving (PADI AOW certified), woodworking, recording electronic music.

References

Available on request.

