# Tom R. Dial

15 Park Avenue #3B
New York, NY 10016
**(216) 338-3425**
**dialtr@gmail.com**
**linkedin.com/in/tdial**

## EXPERIENCE

### FactSet Research Systems (NY) Vice President, Director

DECEMBER 2017 - PRESENT

I currently lead the API and Toolkits group within FactSet's Content and Technology Solutions department. Our team is responsible for internal high-availability APIs that support stock screening and FQL (a custom financial-oriented query language) as well as client APIs. This is a hands-on role that involves everything from managing managers to remaining actively involved in technical decision making as well as writing and debugging code in Java, C++, and other languages as needed.

Technologies: Linux, Java, C++, Spring Boot

### FactSet Research Systems (NY) Lead Software Engineer

AUGUST 2014 - DECEMBER 2017

Led a seven person team in the News Engineering department at FactSet. The team was responsible for building and maintaining back-end services that provide near real-time text search of 100+ news sources, as well as real-time news alerting via email and other notification methods.

Technologies: Linux, C++, Java, SQL Server, ElasticSearch.

### itBit (NY) Engineering Consultant

JUNE 2014 - AUGUST 2014

Developed itBit's order matching engine for bitcoin trading. The system implemented a subset of the NASDAQ ITCH and OUCH protocols with a view towards providing familiar, best-of-breed APIs to institutional traders.

Technologies: Linux, C++, libevent.

### Square (NY) Software Engineer

DECEMBER 2013 - JULY 2014

Developed and maintained various components related to the company's effort to support merchants with multiple store locations, including enhancements to the authentication system and reporting system.

Technologies: Java, Linux.

### FactSet Research Systems (NY) Sr. Software Engineer

JULY 2009 - DECEMBER 2013

Led development on the port of our distributed web services platform from OpenVMS to Linux. Our system enabled C++ programmers to expose shared libraries as web services without concerning themselves with deployment.

Member of the team responsible for enhancing and maintaining our existing systems, including our legacy web services platform and our reverse proxy

## CORE SKILLS

C/C++, Java, Network Programming, Linux System Programming, Windows System Programming.

## TOOLS

IntelliJ, GCC/Make, Git, Microsoft Visual Studio

## PUBLICATIONS

**Multithreaded Asynchronous I/O and I/O Completion Ports** Dr. Dobbs Journal, August 2007. Discusses scalable event handling using I/O completion ports on the Windows Platform.

## PATENTS

**U.S. PATENT 8,566,698**

A system and method for document management for processing forms on a personal computer while isolated from a network.

server, which provides service discovery and routing for HTTP services.

Member of the team responsible for enhancing and maintaining "fire," our C++ event-driven network programming library. Implemented performance enhancements such as using epoll for event dispatch.

Technologies: Linux, C++, Socket Programming, Multithreading.

### Hyland Software, Inc. (OH) Developer / Team Leader

FEBRUARY 2000 - JULY 2009

Designed, developed, and maintained numerous components of the OnBase Document Management system. Work ranged from enhancing and maintaining the flagship GUI desktop application, to back-end API development.

Responsible for designing and developing several popular integration modules including an import module that interfaced with an enterprise fax system, a full-text indexing integration system, and a Windows print driver that allowed document capture from any application.

Led team of four engineers responsible for enhancing and maintaining core APIs and various integration products.

Technologies: Windows NT/2000/2003, C++, Windows MFC / COM / Win32, and a limited amount of C# and Java.

## EDUCATION

### **Miami University,** Oxford, OH —B.S. Business Economics

1996 - 1999

Courses included micro and macro economic theory, econometric analysis, and a concentration in Decision Sciences (business statistics.)

As a paid research assistant, developed an application in the C programming language to extract data from inconsistently formatted text files.

## PERSONAL PROJECTS

### **libmidi** — *Open Source MIDI library for PIC18 microcontrollers*

http://github.com/mikromodular/libmidi

The libmidi project aims to provide a high-quality, open-source MIDI implementation for microcontrollers. Its event-driven design enables it to be used in both polling I/O loops as well

The library is written in C.

### **libcount** — *Open Source C++ HyperLogLog implementation.*

http://github.com/dialtr/libcount

HyperLogLog++ is an algorithm for estimating the cardinality of large data sets, described in HyperLogLog in Practice: Algorithmic Engineering of a State of the Art Cardinality Estimation Algorithm (Marc Nunkesser, et al.)