

Jack Imburgia
7 East Selfridge Avenue
Brant Beach, New Jersey 08008
jack@spearing.com / 610 805 4978

SUMMARY

- Specialist in turning models developed by quants, financial engineers, traders, economists, and investment professionals into high performance / scalable software
- Expert in object-oriented programming / design patterns and strong in functional programming
- Excellent communicator with the ability to explain complex technical subject matter in non-technical terms
- Proficient in C#, C++, Python, Kotlin, Java, R, F#, JavaScript, C, VBA and SQL

CERTIFICATIONS

C++ Institute: C++ Certified Associate Programmer
Microsoft Certified Professional:

- Programming in C# (70-483)
- Programming in Python (98-381)
- SQL Server 2012/2014 (70-461)

Oracle Certified: Java SE 8 Programmer (1Z0-808)

Brainbench: C# (96th percentile)

Codewars: 99 ½ percentile; C# competitive coding

NUGET PACKAGES - AUTHOR

Frames – C# dataframes for exploratory data analysis

Upsert – updating / inserting .NET typed collections

PROFESSIONAL EXPERIENCE

Lead Engineer

March 2020 to August 2020

Cures Capital Management – Philadelphia, PA

Cures Capital Management is a startup fund that trades pharmaceutical equities. It has developed the Trial Risk Index (TRI) that uses machine learning and artificial intelligence to accurately predict the outcome of clinical trials.

My role is to develop the software that supports research, trading, trading simulation, back testing, back office, and translate models developed by data scientists into high performance software systems.

Tech: C#, C++, Python, Blazor, SQL Server, AWS Lambda

Principal Consultant

October 2017 to March 2020

Spearing Software – Plymouth Meeting, PA

www.spearing.com

Spearing Software develops bespoke financial software for the alternative investment, hedge fund, and banking industries. My role is to turn models created by quants, financial engineers, traders, economists, and investment professionals into high performance / scalable software.

Project: *Clarity*, Collateralized Loan Obligation (CLO) System. **Client:** Wilmington Trust

- Created industry leading platform for trustee services in CLO space
- Developed groundbreaking cash management tools that integrate with accounting platforms and Solvas

Tech: C#, ASP.NET MVC, Angular, TypeScript, SQL Server, ReactiveExtensions, SignalR, Microservices, REST

Lead Engineer

January 2017 to September 2017

Hector Street Trading – Conshohocken, PA

Hector Street Trading was a startup systematic trading firm that researched, developed, and executed proprietary trading and portfolio optimization strategies using machine learning, statistics, quantitative analysis, and risk management. My role was to build all front, middle, and back office systems from the ground up in support of all aspects of trading and research including data analysis, back testing, and algorithm development.

Tech: C#, C++, Python, SQL Server, WPF, ASP.NET, MVC, RabbitMQ, Interactive Brokers

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PROFESSIONAL EXPERIENCE (CONTINUED)

Systems Development Lead, North America

April 2015 to December 2016

Cumulus Asset Management – New York, NY

Cumulus was a \$2 billion discretionary commodities hedge fund that traded electricity, natural gas, oil, coal, emissions, and agricultural instruments globally. It was acquired by Citadel Securities. As the first technology hire in North America, my role was to hire a team of world class software developers, build systems from the ground up in support of US trading and analytics, and oversee the software development efforts.

Project: Financial Transmission Rights (FTR) Analytics and Trading System

- Trading, analytic, and data warehouse tools for FTR trading in the PJM, MISO, and NYISO electricity markets

Tech: C#, SQL Server, WPF, ASP.NET MVC, HTML5, Telerik Reporting

Principal Consultant

November 1999 to April 2015

Spearing Software – Plymouth Meeting, PA

www.spearing.com

Successfully developed multiple custom software systems in capital markets and banking over 15 years.

Project: ARTEMIS, BDC Fund Modeling System. **Client:** FS Investments

- Portfolio modeling system for FS Investments, a \$25 billion alternative investment fund manager
- First of its kind system for real time calculations of P&L, NAV, dividends, coverage tests, compliance, hedging / risk management and leverage facilities
- Robust accrual and historical reporting
- Highly customizable and flexible system that over 25 analysts used daily

Tech: C#, F#, C++, WPF / MVVM, ASP.NET, SQL Server, WCF, Telerik Reporting

Project: DAPiR, Tender Option Bond (TOB) System. **Client:** Wilmington Trust

- Modeling system for TOBs that is regarded as the most accurate and sophisticated on Wall Street and has been in production since 2006
- Created waterfall engine that allows for the modeling of the most complex structures and easy integration of new structures and deal types

Tech: C#, ASP.NET, SQL Server, Reporting Services

Systems Analyst

Keystone Mercy Health Plan – Philadelphia, PA

1999

Software and business intelligence lead on a financial systems implementation.

Financial Systems Analyst

Lockheed Martin – King of Prussia, PA

1996 to 1999

Created quantitative modeling software based on proprietary Excel forward pricing models.

TECHNICAL SKILLS

Languages

C#, C++, Python, Kotlin, F#, R, SQL, JavaScript, Java, Scala, TypeScript, C, VBA, XAML, VB.NET, SAS, MATLAB

Project / Software Management

Jira, Redmine, Confluence

Design Patterns

Abstract Factory, Factory, Strategy, Decorator, State, Adapter, Singleton

Programming Methodologies

Object Oriented Programming, Functional Programming, Aspect Oriented Programming, Fluent API

Architectures / Frameworks

Model-View-ViewModel (MVVM), Model View Controller (MVC), Service Oriented Architecture (SOA), Microsoft Unity, MVVM Light

Windows Development

Windows Presentation Foundation (WPF), WinForms

Web Development

HTML, HTML5, CSS, JSON, AJAX

Web Frameworks

WebAssembly, Blazor, Angular, React, AngularJS, Django, Kendo

Web Protocols

Windows Communication Foundation, Web Sockets, ReactiveExtensions

Development Environments

Visual Studio, PyCharm, IntelliJ, Eclipse, R Studio, SAS Studio

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TECHNICAL SKILLS (CONTINUED)

Databases	SQL Server, MySQL, PostgreSQL, Oracle, Access
Cloud	Amazon Web Services (AWS), Azure
Message Queuing	RabbitMQ
Source Control	GIT, Subversion, Team Foundation Server, Visual SourceSafe
Reporting	Tableau, SQL Server Reporting Services, Crystal Reports, Telerik Reporting
UI Controls	Telerik, ComponentArt, Infragistics, ExtJS, Ext.NET, Aspose
Statistics	Linear Regression, Multiple Regression, Analysis of variance (ANOVA)
Machine Learning	<i>Supervised Learning</i> : Regression, Decision Tree, Random Forest, k-Nearest Neighbors (KNN), Logistic Regression. <i>Unsupervised Learning</i> : k-Means.
Data Science Packages	NumPy, Pandas, IPython Notebooks, matplotlib, ggplot, plyr
Mathematics	Linear algebra, calculus