**Expanded Resume for Patrick Kellogg**

# Novantas/Curinos 11/2018 – 12/2023

Created secure data pipelines for financial big data to custom ETL solution. Wrote Python, Unix scripting, Oracle embedded SQL, and Microsoft SQL Server code to manipulate client data and store it in databases or Apache Hadoop HDFS. Worked with AWS team to load data into Impala and other cloud-based tools like Databricks. Handled client communication for troubleshooting and setting up data channels. Worked trouble tickets in JIRA and ServiceNow, and maintained backups in Git and Actifio. Other tools: PHP, WordPress, PGP encryption, SSH keys, CrushFTP.

# Personal Projects 1/2011 – present

Miscellaneous personal projects, volunteering, and continuing education

*Western Governors University 6/2018 – 11/2018*

Subject matter expert (SME) for online university. Helped develop curriculum for a new class on "Advanced SQL". Wrote test questions, performed QA, and defined competencies and lesson objectives.

*Barton Solvents Inc. 4/2017 - present*

Currently serving on the board of directors for a family-run chemical distribution company based in Des Moines, Iowa.

*Volunteering work 1/2011 - present*

Wired local farms and performed pro bono electrical work for a community theater. Created websites for community groups.

*NYDCA (New York Coding + Design Academy) 9/2018 – 12/2018*

Fourteen-week intensive programming bootcamp for web development using Ruby, Rails, React, Redux, and other tools.

*General Assembly 3/2015 – 9/2015*

Six-month class in data science at a NY programming bootcamp. Did final project on “Classification Using Genetic Programming”.

*Apex Technical School 6/2012 - 5/2013*

Year-long class to receive electrician certificate. Studied basic home wiring, fire and security systems, motor control, and power distribution. Interested in new LED technologies, Arduino and other embedded processors, and theatrical lighting.

*Park Hudson International 1/2011 – 8/2011*

Converted Excel spreadsheets into MATLAB code for UBS AG. Pushed for solid computer engineering by introducing backups, version control, and automated testing for MATLAB code.

# Lockheed Martin 12/2004 – 12/2010

# Several projects as a defense contractor:

# Designed and installed systems with high security concerns. Created cloud computing solution using VMWare and NetCool monitoring software to a Remedy database. Wrote and implemented test plans. Managed schedule, with high visibility and communication. Communicated with the client, and traveled up to 25% for implementation and training.

# Led multi-segment test activities, and monitored a dozen smaller development projects for the government. Built schedules and tracked status. Organized a team of test engineers, arranging travel and billable costs. Created and documented workflow processes for new program. Created workflow to manage, track, and respond to change documents. In charge of writing test plans and procedures and managing test configurations at several data sites worldwide.

# Wrote complex scheduling algorithm in Java to an Oracle / JDBC database. Updated and maintained Rational Rose models, and synchronized architecture with government planning.

# Digital signal processing and algorithm work for a government contract. Worked on a highly complex large-scale system as a senior computer systems design engineer to analyze performance metrics and evaluate datasets. Data was extracted from the network using Perl, and sent to a MySQL database. Wrote new tools in C, C++, Java, MATLAB, Visual Basic, and shell scripting to analyze and present the data. Tested, maintained, and extended existing code.

# Patrick Kellogg Consulting 5/2001 – 12/2004

Created personal company to provide computer consulting services for the Denver and Boulder area, specializing in mathematical programming featuring MATLAB, combined with rapid application development in Java, Microsoft Visual Basic, and C/C++.

# CCAMP (Colorado Center for Altitude Medicine and Physiology) 1/2004 – 12/2004

Scientific computing for the University of Colorado Health Sciences Center. Analyzed medical data on hypoxia (high altitude sickness). Created medical software in VB.NET to collect biometric data, and presented streaming real-time data flow for researchers.

Tools used: MATLAB, Microsoft VB.NET

# Optibrand 9/2003 – 12/2003

Wrote genetic algorithms to track mad cow disease for the meat processing industry. Wrote Java tools to manipulate data scanned from cattle retinas. Created machine learning solution to find closest match from a large solution space. Performed statistical calculations to compare theoretical and experimental data.

Tools used: Java, Sun Netbeans, RedHat Linux, Swing, MySQL

# Pulte Mortgage 11/2002 – 05/2003

Provided financial computing for a nationwide mortgage company. Refactored and maintained several existing DOS and Btrieve programs, and wrote several new ones using Visual C++, Visual Basic, and C# (all with .NET), saved to SQL Server.

Tools used: Microsoft Visual C / C++ / C#, Microsoft Visual Basic, Btrieve, MSNQ, Microsoft .NET framework, COM+, and Microsoft Access and SQL Server.

# USGS 7/2002 – 10/2002

Worked for the Earthquake Hazards Program at the United Stated Geological Survey. Wrote an interface in C and C++ to interface MATLAB to legacy code. Wrote Visual C++ GUI for real-time earthquake detection and damage modeling.

Tools used: Perl, CGI, Apache server, Solaris, Linux, IDL, C, C++, MATLAB.

# Manning Publications 1/2002 - 6/2002

Book contract to write "Data Structures and Algorithms for the Accidental Programmer", a technical book on the foundations of computer science, including code examples in C++, Java, and Perl.

Tools used: C++, Java, Perl, Microsoft Word, CorelDraw, Adobe Acrobat, Photoshop.

# Bios Group, Inc. 5/2001 - 7/2001

Worked for a start-up from the Santa Fe Institute, a prestigious research based in New Mexico. Developed a program for analyzing professional project management (PPM) decisions using MATLAB and constrained multi-objective genetic algorithms (CMOGAs). Wrote Java to display data and allow users to configure software over the web. Performed server installation and ASP and html webpage development.

Tools used: Microsoft Visual Basic, Java, AWT, Btrieve, SQL Server, COM+, HTML, ASP.

*University of Colorado at Boulder 10/1997 – 5/2001*

Graduate student in computer science, specializing in advanced algorithms and signal processing.

*University of Colorado at Boulder Computer Science Department 10/1997 – 5/2001*

Taught undergraduate class on “Software Tools and Methods” to the illustrate the entire programming cycle from design to distribution. Covered everything from use cases, design documents, eXtreme programming, Agile methodologies, Validation Verification & Testing, version control software, and system administration. Wrote labs involving fun games such as poker and “the prisoner’s dilemma”. Taught students to code in C and C++, Java, Python, Perl, UNIX shell scripting, PHP, and XML. Wrote lesson plans, administered midterm and final exams, graded papers, and helped with other homework assignments. Also worked on miscellaneous tasks for the department, including helping with other professors’ research, and organizing equipment for events, including the annual "NIPS" conference on neural network computing and reinforcement learning. Organized charity functions on campus.

Tools used: HP/UX, RedHat Linux, C, C++, Perl, MATLAB, Java, Python, PHP, XML, Neural Networks and Genetic Algorithms, Latent Semantic Analysis.

# USWest/Qwest 6/2000 - 8/2000

Summer internship at USWest Wireless (now Qwest Wireless) in the Tools Development Group. Wrote several Windows tools using MATLAB and Visual Basic for telecommunications and radio frequency engineers and staff. Studied mobile radio communications and cellular telecommunication theory.

Tools used: MATLAB, Microsoft Visual Basic, Microsoft Access, Sun Solaris UNIX.

*NCAR (National Center for Atmospheric Research) 6/1998 - 5/2000*

National Science Foundation grant to provide web access to various scientific databases of heliospatial and atmospheric data. Used HTML, Perl, and Java to create front-end web pages for data. Developed full client-server solution using CORBA to provide better data mining and user-created queries of real-time data. Other jobs included writing scientific papers, close communication with the user community, design and maintenance of web pages, business travel, and organization of yearly "CEDAR" scientific conference.

Tools used: Java, Perl, HTML, CORBA, MySQL, Microsoft Access, Sun Solaris UNIX.

*Interlink, Incorporated 5/1995 - 6/1997*

Moved with several friends and co-workers to a small Denver-based minority-owned consulting firm. Helped with hiring and promotion of employees. Wrote papers on new technology as founder of research and development group. Gave lectures on Microsoft Visual Basic and Java to promote new technology, rapid application development (RAD), and code reuse.

Tools used: Microsoft Visual Basic 3.0, Java .

## Copper Mountain 10/1996 - 6/1997

Led a team of developers to design and build a ticket tracking system for this Colorado ski resort. Worked both at consulting firm and client site.

Tools used: Microsoft Visual Basic 3.0, Microsoft Access .

## Corporate Express 10/1995 - 10/1996

Part of a large programming team to write a comprehensive accounting system. Wrote front-end in Visual Basic, with a middle layer in C++, going to an Oracle repository. Helped install and deploy software, and analyzed the site architecture. At the time, this was the largest Visual Basic project ever completed by an American company.

Tools used: Microsoft Visual C++, Microsoft Visual Basic 3.0, Oracle.

## Rocky Mountain Poison Control 7/1995 - 10/1995

Helped write code and set up a telephone network to answer 911 calls.

Tools used: Microsoft Visual Basic 3.0, ODBC, telephony.

*Intelligent Electronics 5/1995 - 7/1995*

Worked for now-defunct PC distribution company, writing a Microsoft Visual Basic on-line ordering system for retail outlets.

Tools used: Microsoft Visual Basic 3.0, Microsoft Office, EDI, OLE/DDE, telephony.

# Keane and Associates 10/1992 - 5/1995

Worked for Boston-based consulting firm, first as a sub-contractor and later as a full employee. Wrote several proposals and worked with hiring staff to interview prospective employees. Wrote introductory training manual to promote new Visual Basic language. Evaluated and helped install new phone system.

Tools used: Microsoft Office, Microsoft Access, Microsoft Visual Basic 3.0, ROLM phone system.

## Coors 3/1995 - 5/1995

Worked with accounting staff for "per unit" cost analysis. Performed network analysis and documentation.

Tools used: Visio, Microsoft Visual Basic 3.0, Microsoft Excel, Microsoft Word.

*Micromedex 3/1994 - 3/1995*

Wrote C code for medical CD-ROM database. Wrote drivers to access database using Btrieve. Started new interface using Oracle and Microsoft Visual C++. Debugged and commented existing code, and wrote documentation.

Tools used: Microsoft C, Microsoft Visual C++, Btrieve database, oscilloscopes, CD-ROM "red book" standard.

## Current Stationary 11/1993 - 3/1994

Wrote miscellaneous applications using Microsoft Visual Basic and Visual Basic for Applications (VBA). Created interface from HP 9000 platform to various PC formats, including Microsoft Word, PostScript, and scripting language for embroidery machines. Wrote other time-tracking and management tools in Visual Basic. Helped install mainframe-to-PC LAN interface.

Tools used: Microsoft Visual Basic, Microsoft Visual Basic for Applications (VBA), PostScript, scripting for embroidery machines, Microsoft Office.

## Current Check Division 6/1993 - 11/1993

Wrote Microsoft Visual Basic demo as part of proposal to a new client. Demo was so successful, it led to a long-term contract to develop front-end GUI and Microsoft Access database back-ends for online telephone check ordering system. Interfaced with phone pool, caller ID, and credit card authorization systems. Managed several other people, including DBAs and VB programmers. Commuted 1 1/2 hours each way to client site in Colorado Springs.

Tools used: Microsoft Visual Basic, Microsoft Access, telephony.

## Public Service (Xcel Energy) 2/1993 - 5/1993

Worked as database analyst (DBA) for Colorado power utility for large-scale DB2 and COBOL system. Worked closely with Arthur Andersen consultants on database configuration and optimization on IBM AS/400 systems. Performed daily maintenance and documented database structure.

Tools used: DB2, PL/SQL, COBOL, JCL, AS/400.

## Colorado Medical Consultants 10/1992 - 1/1993

Consulting sub-contract with Keane and Associates for Denver-area medical administration firm. Wrote C code for billing and tracking system. Debugged and commented existing code and created documentation with custom "Matrix" software written in C.

Tools used: HP 9000 UNIX platform, GNU C compiler, WordPerfect, Informix/SQL.

# DataCard 6/1989 - 9/1990

Electrical engineering internship for credit-card manufacturing company. Tested parts and built prototype machines for testing. Read parts catalogs and specifications. Designed hand-held test instrument using embedded controls. Moved test instrument into small-run production. Created budget and timetable. Tested and oversaw production line.

Tools used: HP spectrum analyzers, oscilloscopes, wiring and soldering, embedded controls, ORCAD, SPICE, Microsoft Assembler, 68000 Assembler, Microsoft C, Excel, other spreadsheets, memos and email.