

Kannan Ramaswamy

<http://www.kannan.info>
kannan@kannan.info | 412-294-8780

SKILLS

EXPERIENCED DEVELOPER WITH EXCELLENT PROBLEM SOLVING AND COMMUNICATION SKILLS

Experienced in

- C/C++98/C++11/C++14
- Python • Scientific Programming (numpy, pandas, scipy, R)
- Java
- JavaScript frameworks (React, Vue) • Shell • MATLAB
- Web Technologies (HTTP, XML, HTML5, CSS3, SVG)
- SQL • Postgres
- Networking (TCP/IP, Multicast)
- UI programming (Qt, WTL, WinForms)
- Software Engineering (SEI-CMM, XP, PSP)

Familiar:

- AWS • iOS • Android

EXPERIENCE

COGNITIVE CAPITAL LLC | SOFTWARE ENGINEER

Aug. 2009 - Present | Chicago, IL

- Improved trading system performance by reducing latency. Identified hotspots in the system through profiling, tracing and custom instrumentation and proposed solutions. Developed reports to provide management visibility into the system latency trends. Reduced queuing, improved throughput and reduced latency in the trading system to be able to scale for extraordinary market conditions
- Upgraded trading system infrastructure from tcp to multicast and allowed seamless interoperability with a backwards compatible protocol
- Upgraded trading system software from C++98 to C++14. Introduced modern lock-free programming data structures and libraries to improve performance. Optimized trading system software for newer hardware architectures (NUMA, multicore)
- Developed Market data feed handlers for Non-US exchange feeds. Worked with vendors (Bloomberg BPIPE, Spryware) to evaluate market data solutions, implemented feed handlers in C++ and deployed them. This was a key step in the firm's expansion to european markets
- Developed order management and position management service in C++. The services generated exchange orders and managed positions and risk. The project improved scalability and performance of the existing system

CITADEL INVESTMENT GROUP LLC | SOFTWARE ENGINEER

Dec 2002 – Aug 2009 | Chicago, IL

- Developed trading, risk management, market data and research applications for the Structured Credit desk. I was part of the core IT group (initially 3 members) and helped support the traders grow the portfolio size from the tens of millions to billions of dollars. Worked closely with quantitative researchers in implementing trading and risk management applications, excel addins and reporting tools using C++, Python, XML, Matlab and Excel. Developed pricing and risk tools for senior management to help identify opportunities during the credit crisis
- Worked on the technical infrastructure team and helped implement Service Oriented Architecture initiative in the firm. Central point of contact for firm wide technical infrastructure and developer support. Implemented and managed infrastructure services like multi-master LDAP directory server, replicated IBM Websphere MQ series and a document retention system using EMC Documentum

DESCARTES SYSTEMS GROUP (FORMERLY E-TRANSPORT INC) | SENIOR SOFTWARE ENGINEER

Jan 1998 – Nov 2002 | Pittsburgh, PA

- Architected and developed high-performance high volume distributed Tariff Management business logic servers using C++, CORBA, RPC, shared memory and multi-threaded programming
- Re-engineered the Ocean Rate Tariff Management servers and built a data warehouse using Informix, ESQL and C++. Implemented ETL tools in C++, STL and Perl. Developed critical components that improved Tariff management decision support system performance by a factor of 2000
- Key contributor to all major products in the company's portfolio. Was the go to guy to solve technical issues and implement innovative solutions like an object repository on Informix database, http-tunneling of custom RPC protocol, reporting

architecture using XSLT and Java Servlets and data warehouse implementation

MASTECH CORPORATION | SOFTWARE CONSULTANT

Apr 1997 - Dec 1997 | Pittsburgh, PA

- Developed specifications for E-Transport's RateMaster distributed tariff publication and retrieval system using object-oriented analysis. Developed a prototype of the RateMaster client using C++ as proof of concept

HCL CORPORATION | SOFTWARE ENGINEER

Aug 1995 - Mar 1997 | Chennai, India

- Contracted for Cisco systems developing device integration packages for CiscoView, a SNMP based network management application for Cisco routers and switches. Transitioned the project from Cisco, San Jose to the India Development Center and worked remotely with the CiscoView project team

BHABHA ATOMIC RESEARCH CENTER | SOFTWARE ENGINEER

Sep 1993 - Jul 1995 | Mumbai, India

- Designed and developed simulator and other software for real time reactor fuel handling system using assembly language and C++

EDUCATION

CARNEGIE MELLON UNIVERSITY | MASTER OF SOFTWARE ENGG.

2000 | Pittsburgh, PA

UNIVERSITY OF MADRAS | BE IN COMPUTER SCIENCE AND ENGG.

1993 | Chennai, India