

**Career Next:** Re-engage in software construction and delivery.

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## Recent Engineering Activity

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The Activities In this section reflect a return to engineering and implementation, including DePaul MS Computer science Systems Concentration to complete June 2023, professional, and open source projects.

### **Optimized C++**

- Top in class speed up for Memory heap implementation in Optimized C++
- Cache efficient Data Structures, code optimization, SIMD

### **Python / Mongo**

- Data Science / Data analysis problems, Cryptology problems (Python).
- CME FTP migration to data validation tool (Python).
- Personal projects Task Logger, Columnar Object index library. (Python, MongoDB)

### **Java / Mobile**

- *Mobile Application Development in Android and Advanced Android* (Java).
- Cryptology - Baby step, giant step attack problem(Java).

### **Front end development**

- Personal Task / Scrum Kanban application (React JS ).
- *Web Applications* (Angular, Javascript)
- *Website Design* (HTML5/CSS)

### **Cloud / Virtualization.**

- Docker C++ assignment environment
- Google Firebase DB Web client applications.
- Terraform / Infrastructure as Code Masters research.

## Technical Solution Architecture Development Lead Phase Career Activity

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Activities in this section reflect Professional work at CME Group.

### **Relationship base trading platform Architecture**

- High throughput market Quote capture component design.
- Message based credit enforcement daemon design.
- CME Group Referential and transactional data integration for EBS and Brokertec.

### **In Line Credit control architecture**

- Limit setting and reporting Data integration / messaging architecture.

### **FX Link and various order matching projects.**

- Messaging integration and technical architecture with low latency core CME Globex.

### **Low latency multicast deployment and configuration**

- Configure CME Globex multicast messaging (Tibco FTL and Rendezvous ).

### **Electronic Trading Production Assurance (ETPA) Development tech lead and architect**

- Vision, delivery, and coding (Java) of original Customer onboarding application.
- Data / schema design for configuration applications (SQL / relational).
- CME standard launch and monitoring shell scripts (Unix / Linux shells)

## System and Network Phase Career Activity

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Activities in this section reflect professional work at Computer Sciences Corporation and Brandenburg Industrial Service Co.

### **Hyatt Booking Engine System and network implementation**

- Server Hardware Spec / configuration (HPUX)
- Java Container run environment (Weblogic / J2EE, Unix scripts. )

### **Hyatt DNS and E-mail environment**

- Secure DMZ network and operating system configuration. (Sendmail, DNS, HPUX)
- Routing and name service configuration

### **Hyatt Reservation system Unix system engineering and performance configuration**

- C middle tier and Informix database system performance optimization
- NUMA and SMP System / CPU performance tuning
- IP and Ethernet layer network configuration and troubleshooting

## Early Development Phase Career Experiences

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The Activities In this section reflect application and network development activities including DePaul MS Computer science Telecommunications Design.

### **Nursing application development**

- C and Basic application development
- In memory database development

### **Computer Network / Programming**

- *Computer Architecture* (Processor / hardware concepts)
- *Operating Systems*
- *Object Oriented Programming* (C++)
- *Component based Enterprise Computing* (Java)
- *Distributed Computing* (C)
- *Design and Analysis of Algorithms* (C)
- *Database Technologies* (SQL)
- *Data communications*
- *Local Area Networks* (MAC layer)
- *Data Analysis*