

Chad Voegele

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Work Experience

Qualtrics Seattle, WA
Software Engineer May 2017 – Now
Software Engineering Intern Summer 2016

- Co-wrote asynchronous exports microservice generating 30,000 PDF reports per day.
- Built a dynamic, high-dimensional pivot table in JavaScript for customer experience dashboards.
- Improved product robustness through discovering, reporting, and resolving novel bugs.

CME Group Chicago, IL
Manager Quantitative Risk Management July 2014 – June 2015
Quantitative Risk Management Associate February 2013 – July 2014
Quantitative Risk Management Analyst July 2011 – February 2013
Quantitative Risk Analyst Intern December 2010 – July 2011

- Authored and deployed Java application in production system to automate data flow.
- Architected and implemented C# risk framework simplifying extension of risk analysis to new products, pricing models, and risk models.
- Led development and C# implementation of algorithm to minimize risk across default funds.
- Designed, maintained, and extended margin model for offsetting interest rate swap and interest rate future positions in both MATLAB and production.
- Managed team of 2 through data validation, margin model development, and system implementation for joint variance futures initiative.
- Developed a historical data-based margin model for interest rate swaps with a team of 4-6.
- Elucidated intricate risk models in client meetings and conference calls.
- Directed teams of 2 to 4 to test production systems for interest rate swaps.
- Coded MATLAB programs for ad hoc analysis and repaired existing MATLAB code.

Education

The University of Texas - Austin Austin, TX
M.S. Computer Science, GPA: 3.9 August 2015 – May 2017

- Courses in Compilers, Machine Learning, Monte Carlo Methods, Natural Language Processing, Numerical Linear Algebra, Parallel Algorithms, Randomized Algorithms, Reinforcement Learning, and Visual Recognition.

The University of Chicago Chicago, IL
M.S. Financial Mathematics, GPA: 3.9 September 2010 – June 2012

University of Virginia Charlottesville, VA
B.A. with Distinction in Mathematics and Physics, GPA: 3.9 August 2006 - May 2010

Research Experience

The University of Texas - Austin Austin, TX
Computer Science Research Assistant January 2017 – May 2017

- Researched state-of-the-art algorithms for subgraph isomorphism and k-truss identification.
- Implemented parallel GPU k-truss algorithm using the IrGL framework.
- Co-author presented the research at IEEE HPEC 2017.

The University of Chicago

Computer Science Research Assistant, Research Practicum Program

Chicago, IL

April 2014 – June 2014

- Researched similarity measures of pair distribution functions with Argonne research scientist.
- Presented the research results to the program coordinators.

North Carolina State University

Mathematics Research Assistant, Research Experience for Undergraduates (REU) Program

Raleigh, NC

Summer 2009

- Derived the charged Oppenheimer-Volkoff equation to show that an electron cannot be constructed purely out of electromagnetic mass.
- Article published in *International Journal of Theoretical Physics*.
- Presented research at the NC State Summer Undergraduate Research Symposium.

Purdue University

Physics Research Assistant, Research Experience for Undergraduates (REU) Program

West Lafayette, IN

Summer 2008

- Independently acquired the background needed to study materials with multiferroic properties.
- Presented a summary of the material to the program coordinators.

Publications

Parallel Triangle Counting and k-Truss Identification using Graph-centric Methods

September 2017

Chad Voegelé, Yi-Shan Lu, Sreepathi Pai, and Keshav Pingali
IEEE/Amazon/DARPA Graph Challenge at IEEE HPEC, 2017

Binding in Charged Spherically Symmetric Objects

April 2011

Matthew Corne, Arkady Kheyfets, Jennifer Piasio, and **Chad Voegelé**
International Journal of Theoretical Physics, 2011

Additional Education (MOOCs)

Stanford

Machine Learning (Coursera)

April 2013

Algorithms 1 (Coursera)

January 2013

Databases (Class2Go)

January 2013

École Polytechnique Fédérale de Lausanne

Functional Programming Principles in Scala (Coursera)

September 2012

Patents

Interest Rate Swap and Swaption Liquidation System and Method

August 2014

Udesh Jha, Jingbin Yin, Andrei Lopatin, Jalpan Shah, and **Chad Voegelé**
Application number: 14/457,680.

Methods and Systems for Inter-account Margin Optimization

September 2012

Corey Farabi, **Chad Voegelé**, et al

Application number: 61701350.

Margin Requirement Determination for Variance Derivatives

September 2011

Pavan Shah, Brent Skilton, **Chad Voegelé**, and Dale Michaels
Application number: 61530913.

Awards and Honors

CME Group

Chicago, IL

- Four-time Excellence Award Recipient

University of Virginia

Charlottesville, VA

- Phi Beta Kappa Honor Society
- Sigma Pi Sigma Physics Honor Society
- Pi Mu Epsilon Mathematics Honor Society

Teaching Experience

Department of Computer Science, University of Texas

Austin, TX

Teaching Assistant

Fall 2015

- Graded assignments for a society and technology class by Professors Rich and Cline.

Department of Mathematics, University of Virginia

Charlottesville, VA

Math Tutor and Study Lounge Supervisor

August 2009 – May 2010

- Supervised a math study lounge for four hours per week.
- Tutored groups of five to ten students for all levels of calculus.

Department of Mathematics, University of Virginia

Charlottesville, VA

Teaching Assistant

Fall 2007

- Graded papers for an introductory calculus class for Math Department Professor Joe Johnson.