

Michael Nebor

Curriculum Vitae

Department of Economics
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NIU Job Market Coordinator

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Citizenship: USA

NIU Job Market Administrator

Ms. Debbie Woolbright
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EDUCATION:

- Ph.D. Economics, Northern Illinois University, DeKalb, IL Expected: May, 2025
Degree Specializations: Financial Economics, Econometrics
Dissertation Title: "Covariance Matrix Forecasting of Equity Portfolios"
- M.S. Statistics, Northern Illinois University May, 2024
Thesis: "Forecasting the one month ahead joint distribution of the Carhart four factor model using a copula method"
- B.B.A. Economics, University of Iowa, Iowa City, IA December, 2019
B.B.A. Finance, University of Iowa, Iowa City, IA December, 2019

EMPLOYMENT:

Wintrust Financial Corporation November, 2024 – Present
Wintrust is a holding company of 15 bank charters and 58 billion in assets throughout the Midwest region.

Quantitative Model Development Analyst

- Responsible for running current expected credit loss (CECL) models for quarter end analytics
- SAS to Python conversion of Interest rate and credit stress testing (CST) models
- Transferrable Skills: teamwork, problem solving/critical thinking, Python coding, machine learning

Northern Illinois University

August, 2020 – Present

Graduate Teaching Assistant

- Employed by the university to assist in teaching graduate and undergraduate economics courses
- Tasks include holding weekly office hours for tutoring, grading assignments, quick responses to emails
- Regularly attended training sessions to improve teaching assistant skills
- Transferrable Skills: Flexibility, Preparation, Communication skills

Wintrust Financial Corporation

June, 2023 – August 2023

Quantitative Model Development Intern

- Assisted the quant team in building a machine learning model to improve the risk rating of commercial loans under 3 million dollars.
- Attended all team meetings and presentations about the project.
- Used Python to complete the PSI and CSI analysis of the model features.
- At conclusion of internship presented my findings to finance department.
- Attended the Chicago Financial Services Pipeline conference.
- Transferrable Skills: teamwork, problem solving/critical thinking, Python coding, machine learning

Group of 7 manufacturing companies with combined annual sales of 120 million and 1,000 employees in the Industrial Filtration and Medical Device industries.

Staff Accountant

- Responsible for month end close and creation of financial statements for 3 of the 7 companies
- Trained in application of accounts payable and accounts receivable accounting procedures
- Prepared monthly sales commission reports, sales analysis reports, top customer and top vendor reports, and maintained Capex projects
- Successfully completed a project to set up and implement a fixed asset accounting software system
- Transferrable Skills: teamwork, problem solving/critical thinking, multitasking, good judgement, accuracy with numbers

RESEARCH IN PROGRESS:

“Introducing DCC-SVR, a Hybrid Forecasting Method For Large Covariance Matrices”

(Job Market Paper)

This paper introduces DCC-SVR, a hybrid Dynamic Conditional Correlation (DCC) and Support Vector Regression (SVR) method of forecasting the covariance matrix. This paper shows that DCC-SVR is able to outperform the traditional methods of DCC and rolling historical on multiple data sets. Performance is shown for both standard GARCH and GJR-GARCH methods. This paper also analyzes performance when dimensions are increased to 49 dimensions and when an application using equal weighted portfolio allocation is used.

“Covariance Matrix Forecasting Using Copula-Based Simulation”

This paper introduces a covariance matrix forecasting method based on copula-GARCH simulated returns. The accuracy of this method is compared against the traditional forecasting methods of Dynamic Conditional Covariance (DCC) and rolling historical. The results found the Clayton vine copula dependency structure performed best and ultimately led to superior forecasts over traditional methods. This is shown to be due to an increased accuracy in modeling the correlation structure of the assets. To ensure robustness of the results, multiple datasets and loss functions are used in the analysis.

REFERENCES:

Dissertation Committee

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Other References

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Northern Illinois University
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Duchwan Ryu
Associate Professor, Department
of Statistics
Northern Illinois University
Email: dryu@niu.edu

AWARDS:

Certificate of merit Department of Statistics

TEACHING EXPERIENCE:

Northern Illinois University (Graduate Teaching Assistant)

- ECON 260: Principles of Micro (u)
- ECON 261: Principles of Macro (u)(head TA)
- ECON 361: Intermediate Macro (u)
- ECON 340: Financial Economics (u)
- ECON 386: Environmental Economics (u)
- ECON 390: Basic Econometrics and Economic Applications (u)
- ECON 492: Research Methods in Economics (u honors)
- ECON 584: Financial Derivatives (g)

- ECON 590: Economic Statistics and Econometrics (g)
- ECON 661: Macroeconomic Analysis 1 (g)
- ECON 690: Econometrics 1 (g)
- ECON 793: Financial and Time-Series Econometrics (g)

Guest Lectures

- MATH 535: Numerical Analysis (Fall 2023)
 - Guest lecture on the topic of the Euler equation
- ECON 798: Economics Graduate Colloquium (Spring 2024)
 - Presented my job market research paper to NIU Economics department

PROFESSIONAL CONFERENCES & SERVICE:

- NIU Department of Economics ECONference, May 2020 - May 2024
- Illinois Economics Association Conference, October 2021
 - Volunteer moderator to lead session

TECHNICAL SKILLS:

Programming Languages

R Advanced
 Python Advanced
 SAS Proficient
 SQL Basic
 LaTeX Proficient
 Maple Proficient
 GitHub Basic
 Excel Advanced

VOLUNTEERING EXPERIENCE:

Alpha Phi Omega, Circle K International, Young Life Iowa City, Students Today Leaders Forever (STLF), Feed My Starving Children