Michael Nebor

Curriculum Vitae

Department of Economics
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NIU Job Market Administrator
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EDUCATION:

Ph.D. Economics, Northern Illinois University, Dekalb, IL — August, 2025
Degree Specializations: Financial Economics, EconoMetrics
Dissertation Title: "Covariance Matrix Forecasting of Equity Portfolios"

M.S. Statistics, Northern Illinois University, Dekalb, IL — 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 65 billion in assets throughout the Midwest region.

Financial Modeling, Quantitative Analyst

- Team responsible for model development and maintenance
- Responsible for running current expected credit loss (CECL) models for quarter end analytics
- SAS to Python conversion of interest rate and capital stress testing (CST) models
- Worked on the rebuilding of CST models (in progress)
- Transferrable Skills: Python coding, machine learning, teamwork, problem solving/critical thinking

Northern Illinois University

Instructor — June, 2025 – August, 2025

- Money, Banking, and the Financial System

Graduate Teaching Assistant — August, 2020 – May, 2025

- 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

Financial Modeling, Quantitative Intern

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

AJR Group January, 2020 – August 2021

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
- Successfully completed a project to set up and implement a fixed asset accounting software system
- Prepared monthly sales commission reports, sales analysis reports, top customer and top vendor reports, and maintained Capex projects
- Transferrable Skills: multitasking, good judgement, accuracy with numbers, teamwork, problem solving/critical thinking

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. Results of paper show how DCC-SVR has improved accuracy over traditional DCC and how its computation speed can be improved for application towards large portfolio applications.

"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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Northern Illinois University
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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
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AWARDS:

Certificate of Merit Department of Statistics, May 2024

TEACHING EXPERIENCE:

Northern Illinois University (Graduate Teaching Assistant)

- ECON 260: Principles of Micro (u)

- ECON 261: Principles of Macro (u) (head TA)
- ECON 310: Money, Banking, and the Financial System (u) (instructor of record)
- 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
- Missouri Valley Economic Association Annual Conference, October 2025
  - Presented my job market research paper

PROFESSIONAL CONFERENCES & SERVICE:

- NIU Department of Economics ECONference, May 2020 - May 2024
- Illinois Economics Association Annual Conference, October 2021
  - Volunteer moderator to lead session
- Chicago Financial Services Pipeline conference, August 2023

TECHNICAL SKILLS:

Programming Languages

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

VOLUNTEERING EXPERIENCE:

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