Andrew Benecchi

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EDUCATION

University of Georgia   **Athens, GA**
B.S. Statistics, B.B.A. Finance, Pricing and Valuation Emphasis   *August 2018-May 2023*

Honors:	- Honors Program (3.59 GPA)	- Zell Miller Scholarship
	- Abraham Baldwin Scholar	- UGA National Merit Scholarship
	- 2020 Michael E. Merriman Scholarship	- Nat'l. Society of Collegiate Scholars
Elective Coursework:	- Applied Time Series Analysis	- Pattern Recognition
	- Network Data and Graphical Models	- Deep Learning
	- Mathematical Pricing of Options	- Derivative Security Markets
	- Fixed Income Securities Analysis	- Applied Bayesian Statistics

Wheeler High School Center for Advanced Studies in STEAM   **Marietta, GA**
STEAM Magnet Program Seal   *September 2016-May 2018*

4.2 GPA   SAT: 1580   ACT: 35

APPLICATION SKILLS & CERTIFICATIONS

- R (4 years)
  Packages: Tidyverse, bookdown (R Markdown and gitbook), Shiny, JAGS, Quarto
- Python (3 years)
  Packages: NumPy, pandas, scikit-learn, OpenCV, TensorFlow, Keras, PyTorch, RAPIDS, Quarto

- Ubuntu / Debian / WSL (3 years)	- MATLAB (1 year)	- Tableau (1 year)
- Docker (<1 year)	- Google Cloud Platform (< 1 year)	- Bloomberg Terminal (<1 year)
- AWS (<1 year)	- C++ (<1 year)	- Microsoft Azure (<1 year)
- SQL (<1 year)	- IBM Machine Learning Professional Certificate	- Bloomberg Market Concepts

Skill categories: Deep Learning, Machine Learning, Data Analytics, Data Visualization, Monte Carlo Simulation, Financial Modeling, Underwriting

PROJECT EXPERIENCE

Face and Iris Datasets (FID 2019)   **University of Georgia**
Principal Investigator: Dr. Thirimachos Bourlai, Multispectral Imagery Lab (MILAB)   *May 2022-Present*
- Extracted binocular and periocular images from multispectral face images
- Evaluated performance of different neural networks' image classification capabilities on face, periocular, and left and right binocular images
- Contributed towards forthcoming book chapter regarding testing of neural networks' classification task performances on novel dataset

STAT 5010/20: Undergraduate Statistical Capstone   **University of Georgia**
Capstone Sponsor: Dr. Marc van Iersel, Department of Horticulture   *November 2022-May 2023*
- Performed exploratory data analysis on multispectral image data taken from petunia plants
- Evaluated and identified issues within code which affect data outputs
- Interfaced with Raspberry Pi hardware solution designed to provide affordable, open-source alternative to existing multispectral plant imaging hardware

STAT 4350: Applied Bayesian Statistics   **University of Georgia**
Bayesian Analysis of Hydroxyurea Therapy for Feline Erythrocytosis   *November-December 2022*
- Conducted Bayesian analysis on dose-dependent effect of hydroxyurea on cell volume reduction for primary and secondary feline erythrocytosis
- Performed model selection to determine influence of main and interaction effects on predictive power

ECSE 6410/6420: Pattern Recognition/Deep Learning   **University of Georgia**
Classification of Lymphoblasts Using Convolutional Neural Networks   *August 2021-May 2022*
- Developed scalable process for preprocessing, labeling, and augmenting image data to alleviate CNN rotational noninvariance and dataset imbalance
- Manually built linearly connected and branching convolutional neural networks
- Achieved 82.14% patient-level imbalanced test classification accuracy

MATH 6790: Mathematical Pricing of Options   **University of Georgia**
Monte Carlo Simulation and Black-Scholes-Merton Pricing of Options   *April-May 2022*
- Simulated stock movement with geometric Brownian motion
- Analyzed evolution of distributions of call and put options' prices, time and intrinsic values, and Greeks

STAT 4270: Network Data and Graphical Models   **University of Georgia**
Classification of Fake News Headlines Using Character-Level Convolutional Neural Networks   *December 2021*
- Embedded individual characters as features when representing strings as time series to minimize necessary preprocessing and maximize flexibility
- Built, trained, and evaluated convolutional neural networks with different input character set and message length constraints
- Achieved 93.1% accuracy in distinguishing between Reuters headlines and headlines from various fake news sources

2021 UGA Data Science Competition   **University of Georgia**
Prediction of Credit Card Default Risk   *March-April 2021*
- Evaluated performance of logistic regression, random forests, neural networks, and gradient-boosted trees on imbalanced default risk classification task

STAT 4365: Modern Statistical Programming   **University of Georgia**
Mapping the 2020 US Presidential Election Results   *December 2020*
- Built geospatial maps to visualize 2020 US Presidential election results by state

STAT 4280: Applied Time Series Analysis   **University of Georgia**
Time Series Analysis of Feather River (California) Flow Data, 10/1902-09/1961   *November-December 2020*
- Compared ARIMA, locally weighted least-squares, and exponential triple-smoothed models, evaluated on prediction error over varying forecast horizons
- Evaluated variance of residuals for autocorrelation to detect seasonal ARCH effects

WORK EXPERIENCE

University of Georgia Multispectral Imagery Lab (MILAB)   **Athens, GA**
Undergraduate Research Assistant   *May 2022-Present*
- Evaluated performance of open-source and proprietary semantic iris segmentation methods
- Modified and parallelized existing C++ software solutions to accelerate iris enrollment, segmentation, and matching
- Automated dataset reorganization processes to process large volumes of data more efficiently

33 Holdings   **Atlanta, GA**
Private Equity Analyst Intern   *March-August 2021*
- Conceptualized The Point, a forthcoming 5.3-acre, 210-unit mixed-use development site in Rome, GA, leveraging independent research on small-metro mixed-use developments, generational consumption preferences, and the metro area's economic, education, and housing market trends
- Automated information collection and cleaning by building web scraping and data cleaning tools in R
- Developed a queryable relational database of residential portfolios with R and Google Sheets APIs to generate leads for Acquisitions
- Advised Acquisitions department on property prospecting solutions to better leverage data and geospatial analytics
- Underwrote and estimated cash-on-cash returns of over 100 single-family residences offered to Acquisitions using historical costs and comparables

HonTe Advisors   **Remote Work**
Quantitative Analyst Intern   *June-August 2020*
- Evaluated performance of a convolutional neural network's foreign exchange futures positions against baseline using Excel

iMobile3   **Remote Work**
Business Development Intern   *August-December 2017*
- Assessed iMobile3's position in the mobile point-of-sale landscape by conducting a comprehensive competitive analysis

LEADERSHIP EXPERIENCE

Phi Kappa Psi Georgia Alpha Chapter   **Athens, GA**
Philanthropy Chairman   *November 2020-Present*
- Organized joint service event with Delta Phi Epsilon sorority, assembling and delivering over $2000 worth of backpacks and winter supplies
- Launched Phi Kappa Psi Week of Service with TBP-ATH, providing coffee, clothing, meals, and essential medical supplies to homeless residents of Athens; led chapter members in planning and logistics for events; led leadership retreat sessions
- Oversaw and directed disbursements for largest philanthropy budgets in chapter history: donated more than 100 lb. of meat per semester to TBP-ATH weekly Saturday Meals; organized Phi Kappa Psi-run Saturday Meals and backpack packings

Risk Management Chairman   *January-December 2020*
- Reduced annual chapter insurance costs by $800 by hosting monthly risk management talks

Messenger   *January-December 2020*
- Managed chapter calendar, rosters of Listserv email group, and event group messages; resolved house mail issues by upgrading physical infrastructure

Philanthropy Committee   *September 2019-Present*
- Successfully lobbied Governing Committee for largest philanthropy budgets in chapter history

The Backpack Project of Athens (TBP-ATH)   **Athens, GA**
Greek Life Outreach Coordinator   *January 2021-May 2022*
- Organized event between IFC and The Backpack Project Athens (TBP-ATH) to fill backpacks with supplies for 50% of Athens' homeless population
- Promoted TBP-ATH within Greek life, resulting in new philanthropic relationships with IFC, multiple fraternities, and sororities

Street Outreach Team   *January-December 2021*
- Lead driver for weekly Saturday Meals delivery routes; provided critical logistical support for events

Community Engagement Committee   *August 2019-Present*
- Recruited new members among peers during ten-fold membership growth stage

UGA Statistics Club   **Athens, GA**
Secretary   *January-December 2021*
- Organized a guest lecture on COVID-19 modeling by Dr. John Drake of UGA's Center for the Epidemiology of Infectious Diseases