

## Paul Le Tran

### Curriculum Vitae

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## Citizenship

United States of America

## Education

2020–Present **Ph.D. in Economics**, The University of Texas at Austin

2017 **B.A. in Mathematics**, Pomona College

- Cum. GPA: 3.83/4.00, Major GPA: 3.83/4.00
- Honours Thesis: *“Mathematically Modelling the Dynamics of Tuberculosis”*, (sole author). Advisor: Professor Adolfo J. Rumbos

2017 **B.A. in Mathematical Economics**, Pomona College

- Cum. GPA: 3.83/4.00, Major GPA: 3.83/4.00
- Honours Senior Activity: *“An Extension to the Profits Theory of Investment: Less Competition, More Growth?”* [Stata], with Derrick Choe  
Advisor: Professor Gary Smith

## Employment History

2018–Present **Senior Research Assistant**, Board of Governors of the Federal Reserve System.

- [Bash, FAME, SAS] Assist group of economists tasked with assembling staff's forecasts for U.S. business fixed investment (BFI) ahead of each Federal Open Market Committee (FOMC) meeting.
- [FAME] Compiled an internal memo consisting of BFI and business sentiment survey metrics across private sectors and Federal Reserve regional banks, used by Chairman Powell in his June 2019 press conference.
- [Bash, FAME, (P)SQL, SAS] Calculated relationship between industry-level capital expenditure growth rates from Compustat with metrics of trade exposure and uncertainty with China and other countries. Metrics were published in an internal cross-division FRB memo.
- [FAME] Implemented tighter incorporation of business sentiment, profit expectations, trade exposure, and uncertainty metrics into models that forecast BFI.

2017–2018 **Research Assistant**, Board of Governors of the Federal Reserve System.

- [FAME, R] Excelled in high-pressure role supporting a group of economists charged with assembling the staff's GDP forecast ahead of each FOMC meeting.
- [FAME, R] Developed programmes used by FRB staff that expanded the FRB's forecasting apparatus to directly account for measurement error's role in published statistics when determining the true, underlying cyclical position of the economy.
- [FAME] Created new exhibits highlighting the estimates of the cyclical position of the economy through variables such as GDP, potential output, output gap, & measurement error in the *Tealbook A: “Economic and Financial Conditions: Current Situation and Outlook”* and the *Greenbooks: “Current Economic and Financial Condition”*.

## Ongoing Research Projects

2019–Present “New Orders and Shipments of Capital Goods by Manufacturers: Better Forecasting Using High-frequency Business Sentiment Survey Data” [FAME], with Eugenio Pinto.

- Created two VAR models for in-sample and out-of-sample forecasting, with the base model consisting of only total shipments and total new orders, whilst the alternative model included the weekly-frequency business sentiment survey index from Evercore-ISI.
- Found our alternative model to perform better at forecasting investment at business cycle turning points, and had smaller forecast errors at most time horizons.

2018–Present “The Story Chain Index: High-frequency Record Updates Linkage Across Time with No Metadata” [Bash, Python, (P)SQL], with Andrew C. Chang and Sarah Adler.

- Developed algorithm that performs general semantic text matching to link high-frequency records across time, in situations where the contents of records are updated, but no meta data to link the records exist.
- General semantic text algorithm created from string similarities derived from Levenshtein and Jaquard string distances and record timestamps.
- Programmed framework that filtered and chronologically nearly ten million US-centric news item from the linked Thomson Reuters News Archive (TRNA) at the daily frequency.
- Constructed a daily flexible news coverage frequency index for any given number of news topics from the linked TRNA.

## Honours and awards

2017	<b>Distinction in Economics Senior Exercise</b>	Top 10% of all submitted theses.
2016	<b>Harry G. Steele Scholarship</b>	Awarded \$4,000 in scholarship.
2014-2015	<b>Pomona College Scholar</b>	Top 25% of class in cum. GPA.
2013	<b>Flextronics Texas Scholarship</b>	Awarded \$1,000 in scholarship.

## Coursework

- **Economics:** Senior Activity in Economics, Senior Seminar in Economics, Advanced Econometrics, Advanced Macroeconomic Analysis, Game Theory for Economists, Econometrics, Corporate Finance, Managerial Accounting Financial Analysis, Microeconomic Theory, Macroeconomic Theory, Principles: Microeconomics, Principles: Macroeconomics.
- **Mathematics:** Senior Thesis in Mathematics, Seminar in Mathematical Exposition, Mathematical Modelling (CP), Statistical Linear Models, Differential Equations/Modelling, Abstract Algebra I: Groups & Rings, Mathematical Analysis I, Introduction to Analysis, Calculus III (Multi-variable Calculus), Linear Algebra, Economic Statistics, Honours Topics in Calculus II.

## Other Information

- **Programming:** Python, Bash, SAS, FAME, (P)SQL, R, Stata, EViews,  $\text{\LaTeX}$ .
- **Web Development:** HTML, CSS, JavaScript.
- **Applications:** Emacs, Sublime Text, Git, RStudio, Tableau, Microsoft Office.
- **Operating Systems:** Unix, Linux, Windows.
- **Languages:** Vietnamese (mother tongue), English (mother tongue level), Ancient Greek (basic reading and writing level).