FRANK GENTILE

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TECHNICALLY ADEPT ECONOMIC RESEARCH ASSOCIATE

Build Tools and Conduct Analytical Economic Research
Share Insights for Improved Decision Making

Solution-seeker, formulate questions to provide data-driven insights for economic research, develop tools for research, and synthesize complex technical information sets. Gained business acumen through practical experience and graduate study. Excel at communication and collaboration with cross-functional groups, take ownership of assigned work, and eager learner for continual improvement.

SKILLS

- Programming Languages: Python, SQL, GAMS, MATLAB, VBA, JMP, MS Access, Stata, R, Git, HTML
- Analyzing predictive models to assess potential impact of developments
- Drafting high-quality summary documentation for key stakeholders
- Designing historical databases for future analysis and improve modularized code
- Motivated to facilitate cross border collaboration and builds relationships

EXPERIENCE

EXXONMOBIL, Houston, TX

Modelling Engineer/Programmer, Production Planning Optimization **2019 - 2020**

- Contributed towards projects, including standard operating procedure (SOP) modeling practices that improved work processes with "continuous" model development rather than "batch" or project-based models.
- Designed SQL database structure and programmed algorithm for validating and updating economic models, using Hotelling's 2 sample t-squared test.
- Derived models for technology at refineries used for raw material valuation and run plan, with ~$3MM value. Analyzed model for cross correlations, performance under optimization, and accuracy under specific economic conditions.
- Applied stochastic programming technology, optimizing product sales and crude oil purchases; potential for $100MM value.
- Wrote modularized code in partnership with fellow engineers (utilized Git), ensuring proper synthesis of edits.

EXXONMOBIL, Houston, TX

Real-Time Optimization Engineering Intern **2018**

- Implemented model to determine priority for heat exchanger cleanings based on heat and material flow, yielding estimated value of $16MM/year.

- Designed tool to visualize gains from adding biases during model updates that determined priority for edits and testing. Tool was tested at refinery and estimated to save 15 minutes for engineers during weekly meetings.

PENN STATE UNIVERSITY, University Park, PA

Teaching Assistant, Chemical Engineering Department **2017 - 2018**

- Led review sessions, scored assignments, and answered general questions for classes with up to 60 students.
- Taught heat transfer, material balances, thermodynamics II, and game theory courses.

PENN STATE UNIVERSITY, University Park, PA

Research Assistant, Chemical Game Theory **2016 - 2018**

- Developed toolset in GAMS, Mathematica, and Python for linear and non-linear programs that modeled human behavior in "Tragedy of the commons" game accurately.
- Published 64-page thesis, utilizing predictive model for manipulating "Tragedy of the commons" games in favor of promoting cooperation.
- Mentored peer research regarding game theory analysis for agenda setting process and lyme disease policy. Proofread publication as well as identified bugs in code for model used by team members.

EDUCATION & LEADERSHIP ACTIVITIES

- **Master of Science (MSc)**, Economics and Finance, King's College London, London, UK (online), Expected Completion: Sep 2021
  - Relevant Modules: Financial Econometrics, Economics of Labor, Health, and Education, International Economics and Money and Monetary Policy
  - Cofounder of the Modern Money Society which discusses Modern Monetary Theory
  - Investment Club: Fundamental and Technical Analyst, 2020 - Present
    - Conduct back-testing for stock price in various market conditions, timespan, and scenarios.
    - Perform technical analysis of price movements for company information provided from team members.

- **Bachelor of Science (BS)**, Chemical Engineering, Penn State University, Schreyer Honor's College, University, Park, PA, 2019; GPA: 3.80 / 4.00
  - Minors: Economics and Mathematics
  - Relevant Modules: Game Theory, Public Expenditures and Tax, Real Analysis
  - Dissertation: n-Player Tragedy of the Commons and Chemical Game Theory
  - Engineering Undergraduate Council: Director of Finance, 2018 - 2019
    - Managed and balanced budget of ~$20K for undergraduate council, ensuring adequate funds for events, meetings, and conferences.
    - Planned for and oversaw approval of funding requests and properly allocated resources for various engineering societies.

VOLUNTEERISM

- Hospitality Committee Member, THON, University Park, PA, 2015 - 2019
  - Raised ~$10MM annually for pediatric cancer research and patient hospital bills.
  - Led committee while working concessions, security, and fundraising 30 out of 46 hours during event.