



# Prof. Tony Berrada Professor of Finance, GFRI



# Bringing Fintech to the classroom...





# Bringing Fintech to the classroom...





## **ABILITY TO**

- Analyze large quantities of data
- Replicate real life investment situations
- Use cutting edge methodology





## **MODULARITY IN TERMS OF**

- Topics
- Financial literacy
- Knowledge in quantitative approaches





## **GFRI SOLUTION**

- Web-based platform: no need for local infrastructure
- Powerful cloud computing: **real-time** operations
- Modular structure: coherent framework



	et Selection datasets used in the analysis.	RD_1	RD_1 RR_1	Time-series Visualizations Perform visual analysis of the joint properties of the tin series. EDIT →	ne-
RD_1 RR_1	Moment Estimation Perform 1st and 2nd moment estimation for multivariate time-series. EDIT →	M_1	RD_1 M_1 RR_1	Frontiers Analyze mean-variance and expected shortfall frontiers. EDIT →	No Outputs
M_1	<b>Black-Litterman analysis</b> Perform Black-Litterman type analysis. EDIT →	No Outputs	No Inputs	<b>Carry-Trade strategies</b> Create carry-trade strategies. EDIT →	No Outputs
RD_1 RR_1	<b>Dynamic strategy</b> Create portfolio strategies for out of sample analysis. EDIT →	PTS_1 RR_1	PTS_1	<b>Portfolio analysis</b> Analyze the portfolio strategies created in the Dynamic strategy tab. EDIT →	No Outputs
RD_1 RR_1	<b>Performance Analysis</b> Analise and decompose returns based on factors. EDIT →	No Outputs			





# INITIALLY DEVELOPED FOR OUR PROGRAM IN COLLABORATION WITH TSINGHUA UNIVERSITY, SO...



选择数: 选择分析□ 编辑 →	<b>据</b> <sup>中所用数据</sup>	RD_1	RD_1 RR_1	<b>可视化时间序列</b> 对时间序列的联合属性进行可视化分析。 编辑 →	
RD_1 RR_1	<b>估测矩</b> 为多变量时间序列进行第一和第二矩估计 <b>编辑</b> →	M_1	RD_1 M_1 RR_1	<b>边界</b> 分析均值-方差和预期损失边界 编辑 →	无输出
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RD_1 RR_1	<b>绩效分析</b> 使用因子解析收益率 <b>编辑</b> →	出離光			





## **AN EXAMPLE**

- Let's build a long only risk parity portfolio (US industry data)
- Analyze its risk profile
- Measure its performance

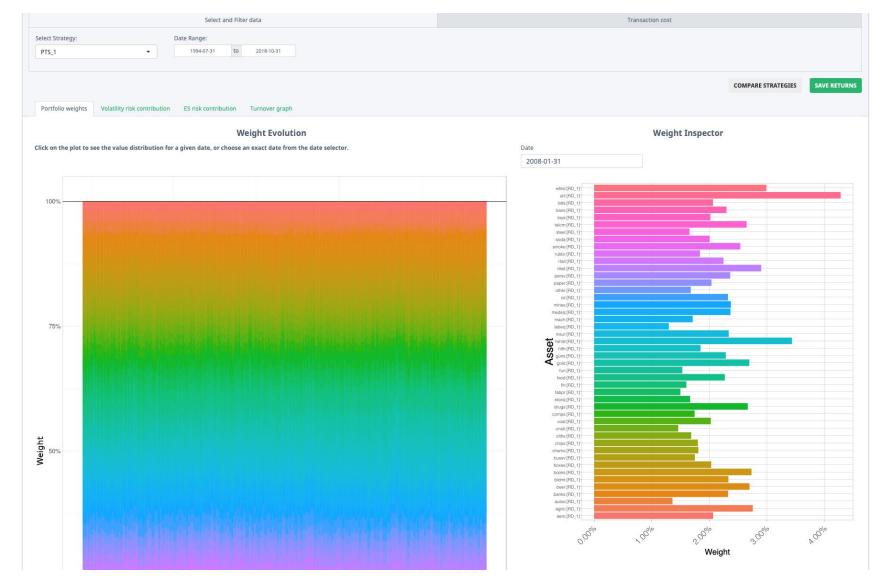
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# A couple of clicks...

# Portfolio weights

#### 1994-07-31





#### Portfolio weights

#### 2008-01-31



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	Volatility risk contributions

# Volatility contributions

1994-07-31



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	Volatility risk contributions

# Volatility contributions

2008-01-31





## A few more clicks: factor exposure...







## **One more click: performance...**







### **Learning outcomes**

• Students actually believe what they see ... and do !

not *just* what we tell them....

• These new approaches are used at

ALL LEVELS: PhD, Msc, BA, Exec, ...