

# Mark Ibrahim

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## SKILLS AND INTERESTS

- Python (Flask, numpy, pandas, matplotlib, object-oriented), bash, git, VIM, Latex, SQL, html, css, jQuery, JavaScript  
Gighacks Burlington 2015: “*most innovative app*”; civic engagement through video search  
UVM Agile CodeFest: *1<sup>st</sup> place winner*; interactive map of free food on campus  
Co-organizer of Burlington Python User Group: taught beginner [Python Workshop](#)
  - Fluent in oral and written French, selected as course assistant independently leading discussion groups
  - Jazz/classical piano, cognitive bias psychology, phenomenology, existentialism, Bob Dylan, good food
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## EXPERIENCE

*UBS Graduate Training Program, Risk Management*

New York, NY

**UBS Investment Bank**, *Fixed Income Market Risk Manager*

2013 – fall 2014

Revolutionized management of curve exposure, not captured under bank’s standard risk framework

- Invented matrix sorting algorithm revealing and ranking \$567k of uncaptured sensitivity per basis point
  - Identified poor curve positioning via Principal Component Analysis of 6-month sector curve dynamics
- Transformed risk metric evaluation \$658m Credit Portfolio from daily manual 2½ hours to nearly instant
- Tailored Python scripts yield full metric view, communicating with proprietary Value-at-Risk engine

**UBS Wealth Management**, *Credit Risk, Collateral Evaluation*


Jun 2011 – Jan 2013

Single-handedly developed alert algorithm monitoring collateral concentrations against live market data

- GUI in Visual Basic incorporating screened headlines from RSS feeds and alert parameters
  - Presented to CRO, CFO who enthusiastically endorsed implementation across all \$22.2bn loan portfolios
- Reset FX risk model threshold uncovering 9 facilities accounted for 85% of risk within large data set

**Condé Nast**, *freelance development*

fall 2014– 2015

Social Media Posts App : automate and tag all Facebook and Twitter posts

JavaScript Google Calendar Extension: synchronize web production across team of writers/editors

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## PROJECTS

**Wikipedia’s First Link Network**, 4.6 million articles analyzed with supercomputer cluster

“What’s so special about Philosophy? Unraveling Wikipedia’s First Link Network”—[Spring 2015, UVM](#)

**Tappt** ([tappt.co](http://tappt.co)): instantly search video with human speech; “most innovative” —Gighacks 2015

**Mathematical Association (MAA) Seaway Section 2012**, presented senior project on cryptography

“*Secret Sharing Schemes using Lagrange and Newton Interpolation*”

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## EDUCATION

**University of Vermont**, *Masters in Mathematics (expected May 2016)*

Burlington, VT

Sole Instructor: [Calculus I](#) (72 students) and [Calculus II](#) (38 students)

**Hamilton College**, *Honors B.A. Mathematics, Magna Cum Laude*

Clinton, NY

[19<sup>th</sup> Gold Scholar](#) for student of “highest standards.” *Phi Sigma Iota*: highest honor for foreign languages

**L’Institut d’études politiques, Sciences-Po**

Paris, France

*Full-year academically intense immersion program, exclusively in French*