

**Jonathan Khanlian, F.S.A.**  
[jdkhanlian@gmail.com](mailto:jdkhanlian@gmail.com) (201) 240-3170

## **Formal Education**

- B.A. Mathematics, Elizabethtown College
- Fellow of the Society of Actuaries (Investment Track)
- Coursera Certificates:
  - “Machine Learning”, Stanford University
  - “Python: A Concise Introduction”, Wesleyan University
  - “Nand to Tetris: Build a Computer from First Principles”, Hebrew University
  - “Neural Networks and Deep Learning”, DeepLearning.ai (Andrew Ng)
  - “Structuring Machine Learning Projects”, DeepLearning.ai (Andrew Ng)
  - “Improving Deep Neural Nets”, DeepLearning.ai (Andrew Ng)
  - “Convolutional Neural Nets”, DeepLearning.ai (Andrew Ng)
  - “Sequence Models”, DeepLearning.ai (Andrew Ng)

## **Computer Skills**

Python, Keras, TensorFlow, Plotly Dash Web-Based User Interfaces, SAS Enterprise Miner, Octave/Matlab, SQL, VBA, Excel, Kamakura, MoSes

<https://github.com/Digital-Physics/>

## **Professional Experience**

### **Senior Actuary, Emerging Actuarial Issues, MetLife**

**2013-2019**

- Machine Learning
  - White Papers, Presentations, Event Coordination, Education
  - Platforms: Python, MatLab, TensorFlow, Keras, SAS
  - Architectures: Convolution Neural Nets, Support Vector Machines, Logistic Regression, Recurrent Neural Nets, Ensemble Models, NLP, LSTM, Supervised, Unsupervised, Reinforcement, Generative
  - Familiar with Data & Computational needs, Accuracy vs Auditability trade-off, new Data Types (Biological, IoT, Web, GeoSpatial), Data Procurement strategies, Shannon information, Complexity Classes
- Biotechnology
  - White Papers, Presentations, Event Coordination, Education
  - Developed Longevity Risk Quantification & Visualization Tool in Python
  - Developed SharePoint Biotech Risk Tracking Site for Chief Actuary
  - Synthetic Biology, Regenerative Medicine, Anti-Aging, CRISPR gene therapy technology, Genetics & Epigenetics, Mobile Health Devices, Precision Medicine, Biometrics, Regulation Tracking
  - AAA Committee Member-Longevity Risk Task Force
- Emerging Regulation

- International Association of Insurance Supervisor BCR, Reg. 109 Trust Account, Genetic Information Usage in Insurance, Longevity RBC charge development, etc.

**Actuary, Pension Closeout Pricing, MetLife** **2011-2013**

- Priced Defined Benefit Risk Transfer Opportunities for bidding
- Analyzed, modeled, and valued Defined Benefit Plans with deferred and in-pay pensioners
- Interpreted pension plan specs, adjusted capital charges, and delivered ROI, Embedded Value, and related metrics corresponding to bid amounts
- Created an “Assumption Loader” for a multi-decrement MoSes cash flow projection which increased transparency and efficiency
- Created a QlikView application to automate our third-party “Bulk Check Payment” reconciliation process

**Actuary, Asset Modeling, MetLife** **2009-2011**

- CUSIP-level modeling of Bonds, Swaps, and other Fixed Income Securities under various interest rate scenarios
- Market Value, Book Value, Principle and Interest CF Projections in Kamakura
- Created Visualization Program that combined information from multiple SQL databases which allowed for a quick validation of modeling accuracy

**Associate Actuary, Deferred Annuity Valuation, MetLife** **2007-2009**

- Variable Annuity GAAP, Stat, Tax Reporting, Rating Agency Survey filings
- GMxB rider valuation, MG Hedge Modeling, Policyholder Behavior

**Owner, Filmmaker and Producer, Philadelphia Philms** **2004-Present**

- Write, Produce, and Direct film, animation, and music videos
- Involved in all technical and business aspects, from pre-production through post
- Feature-length film “Digital Physics” released on iTunes, Amazon, and Vimeo
- [www.PhiladelphiaPhilms.com](http://www.PhiladelphiaPhilms.com), [www.DigitalPhysicsMovie.com](http://www.DigitalPhysicsMovie.com)

**Actuarial Associate, Pension Valuation, Buck Consultants** **2002-2004**

- Plan valuation, minimum contribution calculations, Form 5500, Schedule B