ARPM | Advanced Risk and Portfolio Management®

The ARPM Lab makes all the difference

ARPM Lab

Access to an innovative e-platform on **Financial Engineering for Investment**, **Data Science for Finance**, **Quantitative Risk Management**, **Quantitative Portfolio Management**, with interconnected learning channels to suit different learning styles

Theory: 1,600+ pages	Data Animations: 200+	Exercises: 1,000+
Case Studies: 400+	Code: 118,000+ lines	Slides: 2,350+
Toy Examples: 700+	Documentation: 660+ pages	Video Lectures: 600+

Constantly updated content, developed by practitioners, organized in a structured academic format

Flexible Programs

All courses delivered on the ARPM Lab

Available onsite or online, guided or self-paced, customized or standardized

Incentives given to alumni, large groups, corporates and academia

Ongoing Education and Networking

Continued access to ARPM Lab with private Q&A forums for self-education

Access to a qualified community of 6,000+ quantitative finance professionals

Static data science
- Regression
- Mean and covariance as ellipsoid
  - Minimum volume ellipsoid
  - Least squares
- Autoencoders: principal component analysis
  - Eigenvalues/eigenvectors
  - Swap curve
  - k-means clustering
- Copulas
  - Non-linear Z-score
  - Multivariate Z-score
- Missing observation (NOT) recovery
- Bayesian estimation: mean-variance uncertainty
- Regression (logistic) ++
- (NOT) Trees
- Classification
- Random (NOT) forests
  - Standard
  - Exponential smoothing
  - State-time conditioning via entropy minimization

Dynamic data science
- Mean-reversion and cointegration
- Markov chains
  - Univariate
  - Multivariate
- Hidden Markov models
  - Discrete
  - Linear (Kalman)
- Dynamic principal components