

**ADAM N. ROSENBERG, Ph.D.**

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**SUMMARY OF QUALIFICATIONS**

- Skilled in the design, development, and delivery of decision support systems which have added substantially to the bottom line of employers and their customers.
- Able to take complex problems and deliver effective mathematical solutions which stand alone or can be embedded in software systems.
- Individual project work as well as teamwork to complete large optimizations, large and intricate simulations, complex analyses, and small tools that save time.

**WORK EXPERIENCE (FULL TIME)**

*Clear Demand*, Chief Science Officer, 2012-present.

- Building and maintaining core production retail-science software.
- Modeling retail demand at regular and promoted prices.
- Optimizing regular price based on demand and business rules.
- Creating framework for markdown/clearance price schedule.
- Analyzing retail-promotion demand and price selection.
- Expanding intellectual property portfolio (patents).
- Creating and maintaining software tools for science development.

*US Airways*, Scientist, 2010-2011.

- Retail-science model of airline booking yield management.
- Competitive airline-booking simulation driven by price.
- Testing bid-price algorithms and demand-elasticity models.
- Group consultation on mathematical algorithm proposals.
- Identified \$300 M+ in revenue-management heuristic changes.

*Blackboard, Incorporated*, Consultant, 2010.

- Investigate algorithm issues for Blackboard software.
- Work with planners on new release features.

*MyWorld Investing*, Consultant, 2009.

- Analysis of commodity investing with collateral loan.
- Evaluation of asset forecasting to portfolio value over time.

*Property Informatics*, Chief Scientist, 2008 through 2009.

- Analytic decision support for commercial real estate.
- Medical site selection based on retail placement model.
- Forecast commercial real estate using time series.

*SAP/KhiMetrics*, Staff Scientist, 2003 through 2008.

- Tens of millions of dollars benefit credited by clients.
- Sales aggregation model (SAM) data cleansing system.
- Markdown optimization engine (MOE) for end-of-life products.
- Promotion optimization engine (POE) for products on sale.
- Supported analytic work on forecast confidence intervals.
- Replenishment optimization engine (ROE) prototype.

- InterContinental Hotels Group*, Technical Advisor, 2000 through 2003.
- Simulation of hotel bookings to test revenue management strategy.
  - Rate aggregation for yield management earns millions monthly.
  - Developed price supports for low demand after 2001 September 11.
  - Started design of group-bookings expected to earn tens of millions.
  - Worked with hotel brand managers to explore pricing strategies.
  - New optimizer many times faster with better explanation of results.

- CANAC, Inc*, Principle Consultant, 1999 through 2000.
- Continued work on rail line simulation from Provar (below).
  - Extended model to deal with long trains on short tracks.
  - Worked on database and interfaces for line simulation.
  - Designed and developed graphical tool for interlockings.

- Provar, Inc*, Senior Consultant, 1997 through 1999.
- Designed and wrote rail line simulation for BNSF Railway.
  - Developed sophisticated rail dispatch strategy used in simulation.
  - Designed and wrote image processing for flood plain certification.
  - Statistical used-car “residual” valuation for AutoNation USA.

- InterDigital Communications Corporation*, Staff Scientist, 1995 through 1997.
- Created advanced capacity model for CDMA mobile network.
  - Geographic statistical capacity for CDMA using matrix equilibrium.
  - Simulation of power control algorithms for CDMA mobile system.

- Northwest Airlines*, Senior Consultant, 1991 through 1995.
- Airline booking simulation of full-airline flight network.
  - Yield management optimization earned \$30M/year during 1993-2005.
  - Delay/cancellation reporting supported maintenance decisions.
  - Jet engine reliability study helped forecast engine removals.
  - Many computer tools supported Schedule Planning and Marketing.

- AT&T Bell Laboratories*, Member of Technical Staff, 1982 through 1991.
- Designed and wrote airline planning system for two airlines.
  - Economic and network design studies for AT&T long distance.
  - Simulations influenced design of self-healing ISDN networks.
  - Mobile telephone analytic studies in cellular’s early days.

## EDUCATION

1983 September, Ph.D. in Operations Research from Stanford University

1979 June, M.S. in Operations Research from Stanford University

1978 June, A.B. in Mathematics from Princeton University

## BOOK PUBLICATION

Adam N. Rosenberg and Sid Kemp, *CDMA Capacity and Quality Optimization*, McGraw-Hill Telecom Engineering, 2002.

## **AWARDS**

U. S. Patent 8,082,175 for Retail Promotion Optimization in 2011 for SAP.

U. S. Patent 7,912,748 for Retail Markdown Optimization in 2011 for SAP.

Four AT&T Bell Laboratories Individual Performance Awards, 1984-1991.

U. S. Patent 4,182,517 for Articulated Parallelogram Tonearm in 1980.

Graduated *Cum Laude* from Princeton in 1978.

## **COMPUTER EXPERIENCE**

- Languages: extensive experience in FORTRAN and C.
- Database: SQL, Oracle, ODBC, PostgreSQL, libpq C library.
- Systems: Linux, UNIX, IBM AIX, DOS/Windows, VAX/VMS.
- Environments: UNIX shell, JCL, IBM ISPF, X-Window.

## **REFERENCES**

Available on request.