# **ANTONY VAN der MUDE**

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### MACHINE LEARNING EXPERT / ARTIFICIAL INTELLIGENCE EXPERT

Highly knowledgeable Machine Learning / Artificial Intelligence Expert with wealth of experience developing learning models for financial analysis, speech recognition input and customer data, and consumer products. Adept at developing expert systems and LISP applications in financial planning, auditing, speech recognition and military applications. Works equally well individually or as integral part of high performance team.

Software Development • Machine Learning • Speech Recognition • Natural Language Processing
Artificial Intelligence • Expert Systems •

#### PROFESSIONAL EXPERIENCE

#### KNEWTON, New York, New York • 3/2014 to 7/2015

Adaptive Educational Software

#### **Senior Software Engineer**

Member of Data Analytics and Dashboards team. Wrote Hadoop programs and developed Machine Learning tools.

#### **Achievements**:

- Developed Machine Learning text classifier to categorize pages with educational content for possible inclusion into Knewton's educational taxonomy
- Wrote jobs for Amazon's Elastic Map Reduce to load student interactions and goals into Redshift database.

# ANTONY VAN der MUDE, LLC, Hackettstown, New Jersey • 1/2005 to 3/2014

Computer consulting firm for military, medical and consumer products

### President

Developed applications for Military, Medical and Consumer products. Led needs assessment meetings with managers and project leaders defining requirements and project schedules. Presented detailed Statements of Work, schedules, and budgets. Developed algorithms and software for device firmware and supporting tools, author and run acceptance tests, and bolster delivery of systems and transition to manufacturing.

# **Achievements:**

- Developed Android Smart Battery app using Machine Learning to predict battery life based on actual usage.
- Facilitated \$18M in sales for Navy by presiding over final software development and delivering on-schedule.
- Authored firmware for user interface for Laryngoscope, used to diagnose diseases of the larynx.
- Developed software and performed statistical validation for infrared cameras for howitzer gun sights for military contract extending infrared technology into new applications.

#### AT&T LABS, Florham Park, New Jersev • 1/1999 - 12/2004

Research and Development

#### **Member Technical Staff**

Designed and rolled-out Machine Learning Algorithms, analyzed speech recognition accuracy, and delivered speech recognition and text to speech solutions for AT&T infrastructure.

# **Achievements:**

- Developed data tuning techniques bringing groundbreaking "How May I Help You" customer service speech recognition from 80% to 98% accuracy through tuning of Machine Learning models and performance analysis.
- Enhanced AT&T network capabilities through key contributions to speech recognition and text to speech software including long haul switches and local data centers.
- Eliminated customer service callbacks for duplicate service items by authoring SQL-PL code consolidating customer service requests through entire AT&T business customer division.
- Facilitated successful development of Machine Learning models supporting outside customers for Natural Language Understanding applications by updating manuals on how to analyze, build, test and install new Machine Learning models for AT&T customer applications.

#### BELL TELEPHONE LABORATORIES, Holmdel, New Jersey • 9/1991 - 12/1998

Research and Development

### **Member of Technical Staff**

Part of research and development team for maintaining the user experience of the Bell Telephone system. Built speech recognition and artificial intelligence prototypes for new AT&T services, conducted studies demonstrating accuracy and effectiveness, and assisted non-technical members of department with computer processing needs. Provided advanced computer expertise and capabilities bolstering on-time project completion and performed statistical analysis on studies and data collection tasks.

#### **Achievements:**

- Developed software for gathering and analyzing data on optimizing user experience that slashed need for computer automated call-processing infrastructure for phone system by 20%.
- Created and implemented essential tools for World Traveler automated voice messaging for international customers by developing maintenance and reporting tools for data processing servers.
- Facilitated launch of speech recognition and natural language application packages, bringing AT&T to leadership position in industry, through development of pioneering prototypes of new services.

# COOPERS AND LYBRAND, New York City, New York • 7/1988 – 3/1991

Auditing and professional services firm.

#### **Supervisor**

Served as expert in Machine Learning, Artificial Intelligence and Expert Systems maintaining and documenting current Artificial Intelligence systems. Led project for new Machine Learning applications, developed user interfaces for creation of new financial applications. Ported LISP Artificial Intelligence applications from research Lisp machines to ordinary Microsoft PCs.

# **Achievements:**

- Developed Machine Learning system to convert general ledger financial data into internal auditing format.
- Converted expert system for audit risk analysis from Lisp Machine format to Microsoft computers and authored top-level user interface.

## **EDUCATION**

# Master of Science in Computer Science

Rutgers University – New Brunswick, New Jersey

# **Bachelor of Science in Physics**

Case Western Reserve University - Cleveland, Ohio

#### **PUBLICATIONS / PRESENTATIONS**

Patents #7,933,766, 7,620,550, 7,295,981 "Method for building a natural language understanding model for a spoken dialog system", Narendra Gupta, Mazin Rahim, Gokhan Tur and Antony Van der Mude.

### **TECHNICAL SKILLS**

Machine Learning: Boosting, Support Vector Machines, k-Nearest Neighbor, Bayesian Expert Systems: common Lisp, Scheme, OPS5
Computer algorithms, Computer firmware, SQL and Oracle databases, UNIX internals

# **PROFESSIONAL ORGANIZATIONS / AFFILIATIONS**

ACM – Association for Computing Machinery IEEE – Institute for Electrical and Electronic Engineers AAAI – American Association for Artificial Intelligence