

**Astro Teller**

**Cerebellum Capital, Inc**  
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**San Francisco, CA 94104**  
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**Education**

Stanford University: Executive Program for Growth Companies  
Graduate School of Business  
07/04

Carnegie Mellon University: Doctorate in Computer Science (AI)  
Thesis: "Algorithm Evolution with Internal Reinforcement for Signal  
Understanding"  
09/93 - 09/98

Stanford University: Master of Science in Computer Science  
(Symbolic and Heuristic Computation)  
09/92 - 09/93

Stanford University: Bachelor of Science in Computer Science  
09/88 - 06/92

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**Work Experience**

CEO of Cerebellum Capital, San Francisco, CA.  
Directing all operations for artificial intelligence-based quantitative hedge fund, including corporate strategy, business development, company spokesperson, investor relations, fund raising, research, development, and intellectual property.  
2008 - Present

CEO of BodyMedia, Pittsburgh, PA.  
Fundraising, Corporate Strategy, Strategic Alliance Development, Contract Negotiation, Partner Relations, Intellectual Property, and Market/Technology Research. BodyMedia markets and manufactures tools for continuous body monitoring. \$27M in investment capital raised, 40 employees, 83 patents filed, products in production and in the field.  
1999 - 2007

CEO of Sandbox Advanced Development, Pittsburgh, PA.  
Business Development, Corporate Strategy, Contract Negotiation, Partner Relations, Market/Technology Research for companies doing invention, design and prototyping of mobile and wearable computers as well as positioning, branding, creation, design, and management of e-commerce websites and corporations. Clients include Motorola, Kodak, Compaq, Intel, and NCR. Companies created include Essential Surfing Gear, Wishbox.com, and Scopel.  
1998 - 1999

Senior Engineer in Machine Learning for Carnegie Group Incorporated (CGI), Pittsburgh, PA.  
1996

Researcher in Configuration Management at Stanford's Center for Integrated Systems, Stanford, CA.  
1991-1993

Algorithmic consultant and computer programmer for Phoenix Laser Technologies, Livermore, CA.  
1990

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**Research Experience**

Thesis Title: *Algorithm Evolution with Internal Reinforcement for Signal Understanding*  
Thesis Committee: Manuela Veloso (CMU), Tom Mitchell (CMU), Katsushi

Ikeuchi (CMU), Rodney Brooks (MIT)

Machine Learning: Application of Evolution for Signal Understanding

Genetic Programming: Theory and Application

Computer Vision: Texture Synthesis and Analysis

Robotics: Motion Planning and Control

Agent Theory: Agent Oriented Programming (AOP)

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### Teaching Experience

Lecturer for *Cs198: Teaching Computer Science*. Stanford University, CA.  
1991-1992

TA for undergraduate course *Introduction to Artificial intelligence*. Carnegie Mellon University.  
1994-1995

TA for 3 levels of *programming methodology classes*. Stanford University, CA.  
1988-1991

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### Issued Patents

[EP 1 702 560 A1](#)

System for Monitoring, Health, Wellness and Fitness  
Teller et al.

[EP 1 667 579 A2](#)

Method and Apparatus for Measuring Heart Related Parameters  
Farrington et al.

[EP 1 639 939 A1](#)

System for Monitoring Health, Wellness and Fitness  
Teller et al.

[EP 1 534 126 A2](#)

Apparatus for Detecting Human Physiological and Contextual Information  
Stivoric et al.

[EP 1 292 217](#)

System for Monitoring, Health, Wellness and Fitness  
Teller et al.

[EP 1 292 218](#)

System for Monitoring, Health, Wellness and Fitness  
Teller et al.

[US 7,349,586](#)

Method and Apparatus for Recognition of Writing, for Remote Communication,  
and for User Defined Input Templates  
Kasabach et al.

[US 7,261,690](#)

Apparatus for Monitoring Health, Wellness and Fitness  
Teller et al.

[US 7,020,508](#)

Apparatus for Detecting Human Physiological and Contextual Information  
Stivoric et al.

[US 7,068,860](#)

Method and Apparatus for Recognition of Writing, for Remote Communication,  
and for User Defined Input Templates  
Kasabach et al.

[US 6,720,983](#)

Digital Feedback Display Panel For Communicating Computer Status Information  
Massaro et al.

[US 6,628,847](#)

Method and Apparatus for Recognition of Writing, for Remote Communication, and for User Defined Input Templates  
Kasabach et al.

[US 6,605,038](#)

System for Monitoring Health, Wellness and Fitness  
Teller et al.

[US 6,456,749](#)

Method and Apparatus for Recognition of Writing, for Remote Communication, and for User Defined Input Templates  
Kasabach et al.

[US 5,781,698](#)

A Method Of Autonomous Machine Learning: Software for Autonomously Learning to Discriminate Between Classes of any Signal Type  
Teller et al.

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**Selected Awards and Honors**

World Technology Network Award for Health & Medicine  
2006

MD&DI Magazine's "50 Companies to Watch"  
2006

Pittsburgh "40 Under 40" Award  
2005

MDEA Awards – Gold for the Over-The-Counter category  
2004

"Top 20 Medical Device Companies Mostly Likely to Succeed," Venture Reporter.  
2004

IDSA/Business Week IDEA Awards  
*Gold award for best new product in home/self care*  
2002  
Ernst and Young Entrepreneur of the Year, Pittsburgh Finalist.  
2001

Hertz Fellow.  
1994 - 1998

Exegesis - Elected to the "Best Books for the Teen Age" by the New York Public Library System.  
1998

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**Literature and Art**

Among These Savage Thoughts

- self-published in 2008. Available through most major online book sellers.

Exegesis

- a fiction novel by Astro Teller, published by *Vintage Books*, 8/97

- 15 city, 5 week national book tour for Exegesis.

9/97-10/97

- Book-Of-The-Month-Club and Quality-Paperback-Book-Club Featured Selections  
10/97

- Translated into and published in *Japanese, German, Dutch, Danish, Italian, and Greek*  
1997-2000

- Reviewed internationally in publications such as *Newsday, Esquire, Der Spiegel, and USA Today*  
1997-1998

#### Jedermann

- an interactive multi-media art installation presented at the Hewlett Gallery, Pittsburgh, PA.  
5/5/97 - 5/26/97

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#### **Board Positions**

Board member, Cerebellum Capital. San Francisco, CA.  
2008 – Present

Board member, Figgimation, Inc. Pittsburgh, PA.  
2008 - Present

Board member, Zivio Technologies. Pittsburgh, PA.  
2007 - Present

Board member, Pittsburgh Technology Council. Pittsburgh, PA.  
2005 – 2008

Advisory board, Civic Science, Inc. Pittsburgh, PA.  
2007 - Present

Advisory board member, American Diabetes Association, Advocacy Leadership Council. Alexandria, VA.  
2005 – 2008

Advisory board member, PhysioWave, Inc. Palo Alto, CA.  
2004 – 2008

Advisory board member, New Economy Strategies, Inc, Washington D.C.  
2003 – 2008

Board member (chairman), BodyMedia, Inc. Pittsburgh, PA.  
1999 – Current

Advisory board member to T3-Interface conferences, Pittsburgh, PA.  
1999,2000,2001,2002

Board member (chairman), Sandbox Advanced Development, Inc. Pittsburgh, PA.  
1998-1999

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#### **Published Journal Articles**

Teller, Astro. A Platform for Wearable Physiological Computing. *Journal on Interacting with Computers*. Edited by Yang Chi. (2004) 1-21.

Teller, Astro and Veloso, Manuela. Program Evolution for Data Mining. *International Journal of Expert Systems*. Edited by Louis, Sushil J. Third quarter special issue on Genetic Algorithms and Knowledge Bases.  
1995

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**Published Opinion  
Editorials**

"The Mother of Invention"  
*The Hertz Foundation newsletter*  
Fall 2008

"Sequencing the Human Lifestyle"  
*Medical Device Technology magazine*  
June 2006

"On Board with Astro Teller, CEO of BodyMedia"  
*TEQ magazine*  
Oct 2005

Pittsburgh Post Gazette, "War Stories: User-Friendly" – op-ed,  
Tuesday, August 10, 2000

Pittsburgh Post Gazette, "War Stories: Pittsburgh almost loses one" – op-ed,  
Thursday, June 15, 2000

The New York Times "Smart Machines and Why We Fear Them" op-ed,  
Saturday, March 21, 1998

International Herald Tribune, Paris France "Don't Discriminate Against that  
Robot at the Wheel." - op-ed  
March 24, 1998 by Astro Teller

London Free Press "Don't Fear Artificial Intelligence" - op-ed  
March 28, 1998 by Astro Teller

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**Published Technical  
Book Chapters**

International Journal of Human - Computer Studies, 2005  
*Ambient and Wearable Computing*.  
ASTRO TELLER and Maxence Crossley.

Future of Health Technology-2, 2005  
*Health. Care. Anywhere. Today*.  
David Andre and ASTRO TELLER.

Interacting with Computers, 2004  
Published by: Elsevier B.V.  
*A Platform for Wearable Physiological Computing*  
ASTRO TELLER.

Teller, Astro. Neural Programming and Internal Reinforcement. Chapter 14 in  
*Advances in Genetic Programming III*. edited by P. Angeline, U. O'Reilly, W.  
Langdon, and L. Spector, MIT Press.  
1999

Teller, Astro. Evolving Programmers: The Co-evolution of Intelligent  
Recombination Operators. Chapter 3 in *Advances in Genetic Programming II*.  
edited by K. Kinnear and P. Angeline. MIT Press.  
1996

Teller, Astro, and Veloso, Manuela. PADO: A New Learning Architecture for  
Object Recognition. Invited book chapter for *Symbolic Visual Learning*. eds.  
Ikeuchi, K. and Veloso, M. Oxford University Press.  
1997

Teller, Astro. The Evolution of Mental Models. Chapter 9 of *Advances in Genetic  
Programming*. edited by Kim Kinnear. MIT Press.  
1994

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**Refereed Conference  
Papers**

Artificial Intelligence, 2000  
*Internal Reinforcement in a Connectionist Genetic Programming Approach*  
ASTRO TELLER and Manuela Veloso.

Proceedings of ICML, 2000  
*Efficient Learning Through Evolution: Neural Programming and Internal Reinforcement*  
ASTRO TELLER and Manuela Veloso.

CS PhD Thesis, Carnegie Mellon University, 1998  
*Algorithm Evolution with Internal Reinforcement for Signal Understanding*  
ASTRO TELLER.  
Publication Number: CMU-CS-98-132

RoboCup-98 : Robot Soccer World Cup II  
*Evolving Team Darwin United*  
David Andre and ASTRO TELLER.  
Minoru Asada (editor)  
Springer Verlag (publisher)

Teller, Astro and Andre, David. Automatically Choosing the Number of Fitness Cases: The Rational Allocation of Trials. *Second International Conference on Genetic Programming*. Morgan-Kaufman.  
1997

Astro Teller and Manuela Veloso. Neural Programming and an Internal Reinforcement Policy. *First International Conference Simulated Evolution and Learning*. Springer-Verlag.  
1996

Dave Andre and Astro Teller. A Study in Program Response and the Negative Effects of Introns in Genetic Programming. *First Annual Conference on Genetic Programming*. Edited by J. Koza. AAAI Press.  
1996

Teller, Astro and Veloso, Manuela. Algorithm Evolution for Face Recognition: What Makes a Picture Difficult. *International Conference on Evolutionary Computation*. IEEE Press.  
1995

Teller, Astro and Veloso, Manuela. A Controlled Experiment: Evolution for Learning Difficult Image Classification. *The Seventh Portuguese Conference On Artificial Intelligence*. Springer-Verlag.  
1995

Teller, Astro. Turing Completeness in the Language of Genetic Programming with Indexed Memory. *The IEEE International Conference on Evolutionary Computation*. IEEE Press.  
1994

Teller, Astro. Genetic Programming, Indexed Memory, the Halting Problem, and Other Curiosities. *The 7th Annual Florida Artificial Intelligence Research Symposium*. IEEE Press.  
1994

Teller, Astro. Learning Mental Models. *The International Simulation Technologies Conference*. Omnipress.  
1993

Akelrod, Vadim and Losleben, Paul and Teller, Astro. ALT: A Dynamic, Flexible Approach to Configuration, Maturity, and Access Control for Manufacturing Systems. *The Advanced Semiconductor Manufacturing Conference*. IEEE Press.  
1992

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**Personal Information** Hobbies: Fiction Writing, Soccer, Go, Pool, Multi-media Art, Bridge, Travel, Single Malt Scotch