

# Vita

## Correy Allen Kowall

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**Date of Birth:** May 19, 1974

**Place of Birth:** Washington D.C., USA.

**Citizenship:** U.S.

**Visa Status:** Unknown.

**Passport:** Valid.

**Gender:** Male.

**Marital Status:** Single, in a long term relationship with Katy Jean Tresedder.

**Children:** None.

**Education:**

B.A. Computer Science: minors in Psychology and Mathematics, at Northern Michigan University  
Marquette, MI, USA May 2009.

**Research Experience:**

2006-2007 National Science Foundation Student Research Fellowship in Embedded Robotics and Machine Learning at the University of Oklahoma: Conducted experiments involving robotic, embedded, and simulated systems. Designed a radial dissipation mapping technique for Simultaneous Mapping and Localization which was later applied to a Pioneer Mobile Robot by fellow students Nathaniel Troutman and Gerardo Gonzalez. Designed experiments involving simulated self replicating carts which were conducted on various cluster resources. Worked with fellow students and our advisor Dr. Dean Hougen (OU) to produce a publication detailing the self replication experiments which was presented at GECCO 2007. Attended regular lab meetings where we learned to critique and improve the lab member's experiments and publications. Attended and subsequently reported on ICDL 2007 under NSF student travel funding.

2006-2008 Founder and Primary Student Researcher at the BreveCluster Lab at Northern Michigan University: BreveCluster is a student designed and operated cluster computer laboratory operating under the advisement of Dr. Jeffrey Horn. Using extra computers from the network computing lab Brian Krent and I built an eight node Beowulf cluster to run experiments utilizing Jon Klein's breve simulation environment. After a year of occupying Northern Evolutionary Robotics Laboratory (NERL) the facility was improved with a gracious grant provided by the Department of Mathematics and Computer Science. A dedicated head node to run NFS, and a router were purchased, replacement

systems were provided, and the entire system was moved from the NERL to a dedicated air conditioned facility in the New Science Facility. <http://brevecluster.nmu.edu/>

### **Job Experience and Positions Held:**

2006-Present Lead and Effect Coder for Terrasame: Terrasame is a startup which is developing software to fuse large terrain visualizations, altitude maps, and point of sale interfaces into massively multi player online gaming venues. Presently the company concentrates on modeling destination ski resorts. Over the past two years we have produced a simulation of a 200 square mile region around Whistler British Columbia in anticipation of the 2010 Winter Olympic Games. Produced methods for:

- Scintillating snowflakes.
- Generalized glacading physics suitable for a variety of downhill winter sports.
- Terrain reading deposition control to rapidly locate, select, and then deposit appropriate models, houses, trees, etc. onto the terrain.
- Helicopter flight controls.
- Various embeddings of multimedia and web resources.
- Various menu and interface methods.

<http://www.terrasame.com/index2.htm>

2001-2003 Night Auditor Schuss Mountain Resort, Mancelona Michigan: Duties included basic guest services, liaising with service staff, operating basic office equipment.

1999-2001 Chair Lift Operator Schuss Mountain Resort, Mancelona Michigan: Duties consisted of loading skiers onto lift chairs, shoveling, and light maintenance.

1995-2000 Carpenter and Mason tender Kelly Konstruction, Bellaire Michigan: Duties included all aspects of residential stick built construction including additions to unusual structures (Geodesics, barrel layouts, Gambrel roofs, etc.)

### **Peer reviewed publications:**

2007

Correy Allen Kowall, Brian J. Krent: A simulation of evolved autotrophic reproduction. GECCO 2007: 340

Correy Allen Kowall, Brian J. Krent: A simulation of evolved autotrophic reproduction. GECCO (Companion) 2007: 2781-2786

2005

Correy Allen Kowall: Braitenberg simulations as vehicles of evolution. GECCO Workshops 2005: 398-400

### **Invited presentations:**

Research Experience for Undergraduates Symposium on Embedded Robotics and Machine Learning at the University of Oklahoma at Norman, October 28, 2007

Research Experience for Undergraduates Symposium on Embedded Robotics and Machine Learning at the University of Oklahoma at Norman, October 28, 2006

Northern Michigan University Mathematics and Computer Science Departmental Colloquium Series in Marquette Michigan, October 26, 2006

Research Experience for Undergraduates Symposium on Embedded Robotics and Machine Learning at the University of Oklahoma at Norman, October 15, 2005

Northern Michigan University Mathematics and Computer Science Departmental Colloquium Series in Marquette Michigan, October 14, 2005

### **Presentations:**

A Simulation of Evolved Autotrophic Reproduction. Genetic and Evolutionary Computation Conference Undergraduate Workshop in London, U.K. on July 5-9, 2007.

Braitenberg Simulations as Vehicles of Evolution. Argonne National Laboratories Symposium for Undergraduates in Science, Engineering, and Mathematics on November 13, 2006.

Evolution of Robotic Reproduction. A Celebration of Student Research and Creative Works at Northern Michigan University in April, 2006.

Braitenberg Simulations as Vehicles of Evolution. Genetic and Evolutionary Computation Conference Undergraduate Workshop in Washington D.C. on June 25-29, 2005.

Evolution of Processing Architectures in Artificial Environments. A Celebration of Student Research and Creative Works at Northern Michigan University on April 5, 2005.

### **Community Outreach:**

Representing Northern Michigan University Mathematics and Computer Science Department, at the Youth Engineering and Science Expo at Ford Field Detroit Michigan on October 26, 2005.

Judge at the Lego Mindstorm Regional Competition in Marquette Michigan November 15, 2005.

### **Funding:**

Industry Sponsored Student Travel Grant GECCO 2005/ACM SIGEVO.

Industry Sponsored Student Travel Grant GECCO 2007/ACM SIGEVO.

National Science Foundation Research Experiences for Undergraduates Site for Embedded Robotics and Machine Learning at the University of Oklahoma (Travel funding for presentations, conferences and REU Student Fellowship).

Northern Michigan University College of Arts and Sciences. (Travel grants for presentations)

Northern Michigan University Department of Mathematics and Computer Science. (Various)

Northern Michigan University Graduate College (Travel grants for presentations)

### **Publicity and Recognition:**

Recognized with my co-author Brian Krent by the Northern Michigan University Board of Trustees May 4, 2007 for “unusual achievement”.

Featured in Mirriam Muller's Mining Journal article: “NMU students present paper on artificial evolution” published on October 18, 2007.

### **Research Goals:**

I hope to pursue a career in robotics and machine learning research. During my career I hope to emphasize application of new technology to aid the disabled and solve real world problems. My principle research interest is the re-application of autopoietic phenomena, principally those observed in biological systems, in an effort to produce scalable autonomous scientific agents. My greatest ambition is to contribute to the effort to automate difficult or dangerous human labors, physical and intellectual, with the hope that the relief of those labors will allow humanity to grow in spiritual, cultural, and moral dimensions.

Updated April 9, 2009.