

# Richard T. McKenna

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<b>Current Position</b>	<b>Lecturer</b> Computer Science Department Stony Brook University (Fall 2002 – Present)
<b>Areas of Specialization</b>	Game Programming Game Design Web Design & Development Software Engineering Methodologies
<b>Education</b>	<b><i>Stony Brook University</i></b> , Stony Brook, NY M.S. in Computer Science, Spring 2002  <b><i>The University of Texas at Arlington</i></b> , Arlington, TX Bachelor of Science in Industrial Engineering, Spring 1996
<b>Awards</b>	<b>2019</b> – CS Dept. Award for Undergraduate Education <b>2014</b> – CS Dept. Award for Undergraduate Education <b>2008</b> – CS Dept. Award for Undergraduate Education
<b>As Advisor</b>	2017 – <b>Gold Prize, IEEE Seoul Student Paper Competition</b> , A Mixedreality Board Game to Foster Computational Thinking in Middle School Students by Bao Tran Truong and Lakmi Kulathunga  2017 – <b>Excellence Award, Korea’s Creative ICT Convergence Forum</b> , Playful Learning: A Mixed-Reality Game to Teach Computational Thinking by Bao Tran Truong and Lakmi Kulathunga  2017 – <b>Runner Up in Clinical Trials, University of Utah Games for Health Competition</b> , Victory Trails  2017 – <b>Finalist, Governor Cuomo’s Making College Possible Coding Challenge</b> , Excel to College
<b>Home Page</b>	<a href="http://www.cs.stonybrook.edu/~richard">http://www.cs.stonybrook.edu/~richard</a>

## Achievement

### **Founded Stony Brook University's Annual Game Programming Competition**

Held each May since 2004, in this popular student competition teams make original games and present them to alumni judges now working in the video game industry, “an impressive roster of successful video game developers” as Newsday called it. Ranked #6 by Stony Brook's *The Admissions Blog* on its list of best events on campus. Competition veterans have gone on to work as developers at companies across the country including Activision, Applied Visions, Arkadium, Blizzard, Cryptic, Eduware, Epic, Google, Kixeye, Kuma Games, Major League Baseball, Microsoft, Nickelodeon Games, Rockstar Games, The Body VR, and more.

## Roles

**Research Lead** – Bioengineering Education, Application and Research (BEAR) research group. Done as part of the CEAS' Vertically Integrated Projects (VIP).

**Founder and Coordinator** – CS Department Game Programming Specialization (2006 – present)

Proposed this Bachelor's Degree Program Specialization and have managed the program since its inception, updating the requirements as needed, approving students for graduation, and advising students on course sequences, research projects, and in securing industry internships and positions.

**Faculty Advisor** – Stony Brook Computing Society (2002 – present).

**Faculty Advisor** – Stony Brook Game Developers (2006 – present).

**Faculty Advisor** – ColorStack (2020 - present).

**Course Creator** – Constructed curriculum and course content for:

- CSE 102: Web Design and Programming
- CSE 316: Fundamentals of Software Development
- CSE 380: Computer Game Programming
- CSE 381: Advanced Game Programming
- CSE 390: Advanced Programming Technique
- CSE 393: Computer Music
- CSE 500: Patterns in Programming
- ISE 208: Intermediate Programming
- ISE 390: Dynamic Web Development
- ISE 503: Data Management
- ISE 504: Analysis, Modeling, and Design
- ITS 102: Games in Total & 3D Modeling for Games

**Course Coordinator** – Monitor and adjust how these courses are being taught, among other responsibilities:

- CSE 214: Computer Science II
- CSE 301: History of Computing
- CSE 316: Fundamentals of Software Development
- CSE 380: Computer Game Programming
- CSE 381: Advanced Game Programming

**Member** – Undergraduate Curriculum Committee

## **Primary Projects**

**WolfieMaps** with Angel Li and Kevin Lin (2023 – Present)

This app is available for use online. Created to solve a problem where there were no quality free GeoJSON map editors available online. Still under development but fully functional and heavily used to make maps for Regio Vinco game application.

<https://wolfiemaps.cs.stonybrook.edu/>

**Regio Vinco** with numerous collaborators (2018 - Present)

An original game available to play for free that my team as been developing and playtesting and is nearing completion. Started as a game to help my son learn about geography, became a learning exercise for my CSE 219 students to learn about software design, is now a nearly completed Web learning game that has been playtested in a local middle school and that is targeting the needs of middle school educators. Helps students learn about world geography.

<https://regiovinco.herokuapp.com/>

**CiCaiDa and HealthByes** with Ete Chan and Dr. Jonathon Schwartz (2023 – Present) Collaborations between Stony Brook University Medicine and the Computer Science and Biomedical Engineering Departments. These projects aim to improve patient care through use of mobile devices and Web applications used to do things like track many trauma patients using wearable FitBit devices. Proof of Concept demos are under development for both projects.

**Wolfie2D** with Joe Weaver, Zachary Grandison, Peter Walsh (2020 - Present) This 2D game engine is used for creating Web-based games using the principles of the Game Programming Patterns textbook. This technology is currently used in CSE 380.

<https://github.com/WolfieEngine>

## **Other Projects**

**Vent** with Ete Chan and Dr. Jonathon Schwartz (2020 - Present)

A collaboration between Stony Brook University Medicine and the Computer Science and Biomedical Engineering Departments. In response to the Covid-19 crisis in New York State, this project created an app to help Stony Brook University hospital make more efficient use of ventilators for treating affected patients.

**The Wireframer** with Liomard Mesa, Nate Wine, Justin Fagan, Charlie Monnone, Aaron Lin (2019 - Present)

This app is available for use online. It allows one to create, save, and edit wireframe diagrams. This tool is currently being used for assignments in CSE 316 and CSE 416.

**The Animated Poseur** with Lisa Xu (2016 - Present)

This app is available for use online. It allows one to create, save, and share animated sprites for 2D games. This tool is currently used in CSE 380.

**Lab Simulation Builder** with Ete Chan and Ryan Burgert (2016 – 2021)

Funded by SUNY's IITG Grant, a collaboration with Biomedical Engineering, this project uses Unity3D to create a series of training games for students to learn to use bio lab equipment. Presented at SUNY CIT Conference 2019.

**Victory Trails** with Ete Chan and a team of undergrads (2015 – 2016)

A collaboration with Biomedical Engineering, this project created a fun Kinect game that helps rehabilitating or obese patients improve their balance and compliance to treatment. Won 2nd Place in Clinical Trials in the University of Utah's Games4Health Competition.

**Spin the Wheel of Life** (2016)

In collaboration with 40 students, we created 10 Web games based off John Conway's Game of Life cellular automata. All games have their own backstories, objectives, and gameplay.

## **Advisor**

In addition to the projects above I have served as a faculty advisor to dozens of student research projects that explore a wide variety of subjects including serious games, education, and Web development.

## **Publications**

**A fish out of water: the archer fish's rocket-like launch** by Dionysios Angelidis, Leah Mendelson, Ali Khosronejad, Ryan Burgert, Richard McKenna, Alexandra Techet, Fotis Sotiropoulos (2018)

**The design of a history of computing course with a unique perspective** by Thomas Cortina, Richard McKenna (2006) – Presented at SIGCSE 2006 in San Antonio, Texas.

**Fast Digital Image Inpainting** by Manuel M. Oliveira, Brian Bowen, Richard McKenna, Yu-Sung Chang (2001) – Automated image correction algorithm and application. Appeared in Proceedings of the International Conference on Visualization, Imaging and Image Processing (VIIP 2001), Marbella, Spain.

## **Consulting**

**Goldman Sachs** – New York City, NY (Summer 2008) – Taught a series of courses in Java for the Web.

**Advanced Acoustic Concepts** – Hauppauge, NY. (Spring 2005) – Taught a series of courses on advanced Java programming concepts (IDL & CORBA, multithreading, etc.)

**Levittown Union Free School District**, Levittown, NY (Dec. 2002, May 2003) – Taught a series of introductory Java programming courses to high school Java instructors

**Computer Associates**, Islandia, NY (Jul. 2002) – Taught a “boot camp” class on Java UI programming.

**Teledata Communications Inc.**, Bay Shore, NY. (Apr. 2001) – Taught a series of introductory tutorials on efficient Java programming using Borland’s JBuilder IDE.

## **Past**

### **Employment**

#### **Teaching Assistant**

Computer Science Department, Stony Brook University, Stony Brook, NY

#### **Process Engineer**

Mini-Circuits Labs, Brooklyn, NY. (1996 – 1999)