

BLAKE IAN BARRY COLE

Engineer, Maker, Ocean Creature

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EDUCATION

Ph.D. in Mechanical Engineering

Massachusetts Institute of Technology

Sep 2017 – May 2024

Cambridge, MA

- MIT Woods Hole Oceanographic Institution Joint Program
- **Thesis Title:** *Wingsail design methodology and performance evaluation metrics for autonomous sailing*
- **Course Focus:** Design Optimization, Autonomy, Control, Aerodynamics
- **GPA:** 4.8/5.0

M.S. in Civil & Environmental Engineering

Stanford University

Sep 2014 – June 2015

Stanford, CA

- **Course Focus:** Hydrodynamics, Numerical Methods, Product Design
- **GPA:** 3.74/4.0

B.S. in Mechanical & Aerospace Engineering

University of California, San Diego

Sep 2008 – June 2013

La Jolla, CA

- **Major:** Environmental Engineering
- **Minor:** Political Science
- **GPA:** 3.45/4.0

EXPERIENCE

Founder, CEO

SeaWing, LLC

Oct 2023 – Present

Redondo Beach, CA

- Building state-of-the-art uncrewed surface vessels for academic research, defense (ISR), and commercial offshore applications.
- Consulting for marine vehicle autonomy and design optimization.

Visiting Oceanography Faculty

Sea Education Association

Jun 2024 – Aug 2024

Woods Hole, MA

- Developed lecture materials and planned field trips for a college-level introductory short course in oceanography.

Marine Engineer

Virgin Hyperloop One

Sep 2015 – Sep 2017

Los Angeles, CA

- Led the marine research program.
- Developed regional ocean models driven by wind, wave, and tidal data.
- Developed and field-validated a nonlinear heat transfer model for a prototype hyperloop system located outside Las Vegas, NV.
- Formulated requirements and conducted the initial design of a tubular thermal expansion joint.

LIFE PHILOSOPHY

"The harder you work, the luckier you get."

CORE SKILLS

Hardware Prototyping

- Embedded systems & microcontrollers
- Feedback control systems
- Wireless communication
- IoT & mesh networks
- Composites
- Laser and waterjet cutting
- Additive manufacturing

Software Proficiencies

- MATLAB, C/C++, Python
- CAD (Solidworks, OnShape, Fusion360)
- MOOS-IvP Autonomy Middleware
- ArduPilot
- LabView
- Simulink
- Orca3D
- Delft3D
- STAR-CCM+

PATENTS

- *Corrosion-resistant fluid membrane*
U.S. Patent No. 10,077,540
- *Expansion joints for a tubular transport system*
U.S. Patent No. 11,421,809
- *Self-healing metal composite tube walls*
U.S. Patent No. 10,682,823

ACCOMPLISHMENTS

- All-American Swimmer (2008)
200-yd Freestyle Relay, 1:26.52
- AAUS-Certified Scientific Diver (2013)
- John Muir Trail (2014)
21 days, 230.3 miles
- Martha's Vineyard Open Water Swim (2021)
2 hours, 4 miles

FOR FUN

Surfing, sailing, wing foiling, climbing, yoga, swimming, volleyball, scuba/free diving