Bradley D. Null

Emerson
Chief Software Engineer
Transportation Business Unit, Systems R&D
Austin, TX

brad@bradleynull.com
(512)850-4614 (mobile)
www.bradleynull.com

Profile

Computer Vision and Machine Learning leader and developer that enjoys composing algorithms and software in all disciplines of computer science. More than 15 years of experience developing R&D software ranging from hardware interfaces for real-time Machine Vision to pure algorithmic endeavors utilizing image, video, sonar, radar, LIDAR, and other data sources. Always tackling problems that have never been solved before by developing novel approaches with the aid of some of the smartest people in the world.

Research Interests

Machine Learning, Reinforcement Learning, Artificial Intelligence, Robotics, Computer Vision, Augmented Reality, Image Analysis, 3D Data Analysis, Computer Graphics, Scientific Computing, Logic Programming, Open Source Development, Cross-Platform Development

Education

- Master of Science, Computer Science, Texas Tech University
  Thesis: *Three-dimensional Robotic Mapping Using Spin-Histograms for Localization*
  Research Advisor: Eric D. Sinzinger
- Bachelor of Science, Computer Science, Texas Tech University
  Minor: Mathematics
  Magna Cum Laude
- Several online courses at Udacity and Coursera including: Programming a Robotic Car, Applied Cryptography, Web Application Engineering, Computer Vision, Machine Learning, etc.

Appointments

- Chief Software Engineer, Emerson, 2023 - present
- Squad Technical Lead and Principal Software Engineer, NI, 2021 - 2023
- Senior Software Engineer, monoDrive, 2019-2021
- University of Texas Applied Research Laboratories, Research Consultant, 2019-2021
- University of Texas Applied Research Laboratories, Engineering Scientist, 2013-2019
- University of Texas Applied Research Laboratories, Engineering Scientist Associate, 2008-2013
- Texas Tech University, Research Associate, 2008-2008
- Texas Tech University, Research Assistant, 2006-2008
- Texas Tech University, Student Assistant 2006-2006

Professional Awards and Honors

- Texas Space Grant Consortium Fellowship
- Raytheon Academic Scholarship
- National Merit Scholarship

Consulting, Patents, etc.

- Chief Operating Officer at CogniSense Technologies, LLC.
- Chief Technical Officer at Dark Puppet, LLC.
- Software Engineering Consultant Premier Media Group (printshipnow.com)
- Inventor and patent holder of “Remote Contactless Stereoscopic Mass Estimation System”

Skills

- Proficient in programming languages: C, C++, C#, Python, JavaScript, MATLAB, LabVIEW
- Proficient in ML and LLM frameworks: PyTorch, Tensorflow, LangChain
- Proficient in scripting languages: HTML, CSS, PHP, JSON, Bash
- Proficient in databases technologies: MySQL, SQLite, mongoDB
- Proficient in operating systems: Linux, macOS, Windows
- Able to learn and use new languages and tools very quickly to adapt to rapidly developing technology

Personal Interests and Hobbies

- Raspberry Pi development
    - Constructing robots with various suites of sensors for home automation
    - Constructing light sensor for ambient light control
- Study of several different disciplines of philosophy and their relation to modern day thought, language, and computer science
- Reading about all things NASA with an emphasis on exploration through robotic vehicles

Publications

B. Null, T. Josserand, and J. Romero, “Intelligent Mission Control of Robotic Underwater Vehicles,” *Proceedings of OCEANS 2012 MTS/IEEE Hampton Roads*, *OCEANS’12 ,* pp. 1, 4, 14-19 Oct. 2012.

B. Null and E. Sinzinger, “Autonomous Map Construction Using Three-dimensional Feature Descriptors,” *Robotics and Automation, 2009. ICRA ’09. IEEE International Conference on,* pp. 2024-2029, 2009.

B. Null and E. Sinzinger, “Next Best View Algorithms for Interior and Exterior Model Acquisition,” *Lecture Notes in Computer Science* 4292, *(Proceedings of the International Symposium on Visual Computing 2006)*, pp. 1584-1593, 2006.