DAVID LEBLANC

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leblancdavid

EXPERIENCE

Senior Software Engineer

Hamilton Company

January 2013 – Ongoing Reno, NV

- Designed and developed the architecture for the back-end software of the successful MLPrep liquid handling robot
- Full stack development including Angular front-end, ASP.NET core server and SQL database
- Implemented a novel camera-based labware detection and recognition system to facilitate user experience
- Collaborated with mechanical, electrical, firmware teams to deliver a quality product in a timely fashion
- Worked on various other projects including the Nimbus ELISA robot, service software, and pipette tip inspection machine

Graduate Research

University of Nevada, Reno / Desert Research Institute

Fall 2015 – Spring 2017 Reno, NV

- Developed a novel algorithm for dune crest-line detection from satellite images
- Collaborated with researchers to improve methods and publish findings

Computer Vision Research Intern

Eye-Com Corporation

May 2010 – November 2012 Reno, NV

- Developed a novel high accuracy real-time head pose estimation system
- Designed a hardware calibration pose estimation algorithm to improve head pose accuracy
- Calibrated various headset cameras using proven calibration methods
- Improved the pupil tracking algorithm to reduce jitter and increase robustness
- Worked on iris, cornea, eyelid, and eyelash detection
- Implemented various machine learning and eye gaze mapping methods
- Debugged, profiled, and optimized various algorithms in the company vision library

Undergraduate Research in Computer Vision

University of Nevada Reno

October 2009 – May 2012 Reno, NV

- Worked under Dr. George Bebis, with funding from the NASA Nevada Space Grant
- Designed and developed a crater detection and classification algorithm
- Studied various methods for object detection and recognition
- Attended the 2009 International Symposium on Visual Computing (ISVC09)
- Presented work and various NASA projects to peers

SKILLS

Front-end

HTML CSS JavaScript Angular (JS & 2.0+) Flutter React Razor (ASP.NET) WPF

Back-end

C# (.NET, .NET Core & ASP.NET) C++ Python NodeJS

Source Control

Git TFS-VC Subversion

Applications, Frameworks & Tools

Visual Studio OpenCV ML.NET xUnit nuget NPM Material Design Bootstrap Google Cloud TFS Jenkins Redmine Docker Doxygen SQL Entity Framework LaTeX

EDUCATION

M.S. in Computer Science

University of Nevada, Reno

April 2017

- Thesis: Automated Sand Dune Crest-Line and Geomorphological Metric Computation on Planetary Surfaces

B.S. in Symbolic Systems

University of Nevada, Reno

December 2011

- Emphasis on Intelligent Systems (Machine Learning, Computer Vision, Robotics)
- Senior Project: Segway Robot with obstacle avoidance, collision detection, and visual environment recognition

LANGUAGES

English
French

PROJECTS

Stock Market Prediction Algorithm
Uses technical analysis and machine learning (ML.NET) to predict stocks to buy and sell. Implemented in .NET Core with an angular web application front-end and a flutter mobile app.

Open Source Liquid Handling Robotic Framework
A framework built to provide an API for liquid handling robotic tasks for laboratories.

Dune Crest-line Detection Algorithm
Master Thesis project for detecting and measuring dune crest-lines from satellite images.

Virtual Pet Game using the OpenAI API
A game that utilizes the machine learning OpenAI API to interact with a virtual pet (in progress).

PUBLICATIONS

D. Leblanc and S. Louis, Early Prediction of a Game Outcome in StarCraft 2, 28th International Conference on Computers and Their Applications 2013 (CATA-2013), 2013

REFEREES

Prof. George Bebis
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Prof. Mircea Nicolescu
@ University of Nevada, Reno
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