



UNIVERSITY OF CENTRAL FLORIDA

Computer Science

4000 Central Florida Blvd.
Harris Engineering, Suite 437
PO Box 162363
Orlando, FL 32816-2362

December 21, 2024

Re: Max Petrushin

To Whom It May Concern:

I am pleased to write this letter of recommendation for Mr. Max Petrushin for any position requiring strong computer science, machine learning, software engineering, and team management skills. In my capacity as a faculty member in the Department of Computer Science at the University of Central Florida (UCF), I served as the primary mentor/client for the two-semester Senior Design Project in which Max was the project manager of a team of five (Max included) as well as a major software developer.

The senior design project to which Max contributed was to create a gesture-based interface for puppeteering multiple characters in a virtual learning environment. This was to replace a puppetry system we had previously developed that was Unity-based and involved tracking the puppeteer's gestures with the aid of handheld devices that reported position and orientation. Their solution had to use vision and machine learning and was required (by me) to run in a web browser with no installation (outside of the browser) needed by the user or puppeteer. It had to allow for multiple puppeteers in case a scenario involved many virtual puppets – our experience is that a single puppeteer can control up to six virtual characters, which is usually enough. In addition to allowing scaling, the ability to have multiple puppeteers helps us train new improvisational actors to successfully scale from inhabiting single to multiple characters.

This was the most talented and professional team of undergraduates that I have encountered in 55 years as a computer science faculty member at multiple universities and I feel Max's leadership was a major contributor to the team's success. In the first semester, the team members met with me and several others every two weeks during the design process. Surprisingly, by the end of that first semester, they already delivered a nice prototype (minimally viable product -- MVP), not just a design. In the second semester, they had daily team meetings and did weekly sprints, meeting with me and others in the mentor group every Friday to demo and report on progress. Max led all those sessions, integrating his and the contributions of all other team members. Moreover, as a good leader should, he involved all other team members in the presentations, highlighting each one's contributions. The prototype they delivered this semester is close to a commercial product, not just an MVP.

Max was responsible for project management, component integration, automated data collection, and the neural network training pipeline on the frontend using Tensorflow.js. He also designed and implemented classification refinement, normalization, and noise cancellation algorithms.

Department of Computer Science

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In conclusion, I support, without reservations, Max's application for a position involving strong algorithm development, programming skills, understanding of the role of AI in large projects, training of machine learning algorithms for challenging tasks, project management, and communication to client and managers. I can also add that Max is a natural mentor, having shown this throughout his time at UCF,

Sincerely,

A handwritten signature in black ink, appearing to read "Charles E. Hughes". The signature is fluid and cursive, with the first name "Charles" being more legible than the last name "Hughes".

Charles E. Hughes

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