

Determining Sleep Apnea Risk by Monitoring Tongue Size

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Company Background

Wireless Fitness Technologies develops products with universities.

The president of Wireless Fitness Technologies is Robert Gold RPH, MBA, BCACP a pharmacist and co-inventor of the Intelligent Basketball with Spalding and the wireless pill bottle and water bottle with UAH.

Description of the Work to be Done

Project Goal

Obesity is the primary risk factor for obstructive sleep apnea. Tongue fat is increased in obese people.

Weight loss has been shown to decrease the risk of tongue fat and size.

<https://pubmed.ncbi.nlm.nih.gov/31918559/>

Using a phone app and a phone camera with the motion microscope which is open-source software that can reveal details in video that are otherwise invisible. Kathleen Kelly evaluated the software and reports that the student could download it and compile it.

<https://search.app/RPrwYPmgTZ6avgE7>

The mobile app will monitor tongue size since there is a correlation between tongue size and sleep apnea.

Preferred Team size 4

Potential for future work

A positive test of the software could lead to future potential opportunities.

Location of work

Colorado School of Mines or can be done at work from home.

NDA will be required.

Requirements

- Research using the motion microscope to monitor tongue size.
- Develop a mobile app with a phone.
- Functional prototype

Client Expectations

- Communication: Initial virtual meeting with Robert Gold followed by email update summaries every two weeks thereafter.
- A project report with:
 - Construction Drawings
 - Construction Instructions
 - Bill of Material
 - Testing Results

Suggested Review:

Wireless Fitness Technologies: <https://www.f6s.com/wirelessfitnesstechnologiesllc>