Alpha Presentation
Making STEM Papers Accessible to ASL Users

The Capstone Experience

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Project Overview

- Enable ASL users to interpret STEM papers
- By making a translation reading tool
- Accessible as a Chrome extension
System Architecture

![System Architecture Diagram]

- CSS
- JavaScript (JS)
- HTML
- Flask
- Python
- spaCy
- ML Model
- Lookup Table
Input for a single word

Lithium occupies a unique position among the psychotropic agents. A naturally occurring salt, lithium has been dubbed both a miracle drug and the gold standard in the treatment of bipolar disorder, alternately a life-saver and perhaps more descriptively—known as manic-depressive disorder. While its use in psychiatry began in the mid-19th century, the widespread discovery of lithium is usually credited to Australian psychiatrist John Cade who introduced it for mania in 1949. The drug was not approved by the US Food and Drug Administration (FDA) in the United States until 21 years later in 1970, and although lithium remains the single most effective treatment for bipolar illness, its status has been threatened in recent years by the newer and more profitable "mood stabilizers." This report provides a brief sketch of the rich and sometimes controversial history of lithium therapy in psychiatry.

Lithium’s early medical use was in the treatment of gout. After London internist Alfred Baring Garrod discovered uric acid in the blood of his patients with gout in 1847, he investigated lithium as an antigout agent and subsequently published The Nature and Treatment of Gout and Rheumatic Gout in 1859,¹ which led to its widespread use. By the 1930s, various lithium-containing products were being marketed for the control of kidney stones and "uric acid diathesis."²
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Input for several words

Science, Technology, Engineering, and Math, including Computer Science

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English to ASL translation for STEM Words
Press the Button to Translate the Highlighted Word

Translate
Output for several words
What’s left to do?

• Stack models for increased accuracy
  ▪ Other cross-lingual entity linking
  ▪ BERT model
  ▪ String difference
• List of similar words upon output
• Activate extension with right click
• Display YouTube search results to front-end
• PDF compatibility
Questions?