Information Technologies for Industrial Engineers

เทคโนโลยีสารสนเทศสำหรับวิศวกรอุตสาหการ

Speech Recognition Application

Keyword spotting

- *Convolutional Neural Networks for Small-footprint Keyword Spotting*
  Source

Setting up

- `npm install @tensorflow-models/speech-commands@0.4.2`
  - The newer version does not work.
- `npm install -D vite-plugin-node-polyfills`
  - Use *polyfill*
  - Code that implements a feature that Vite does not natively support.

./vite.config.js

```
import { defineConfig } from "vite";
import react from "@vitejs/plugin-react-swc";
import { nodePolyfills } from "vite-plugin-node-polyfills";

// https://vitejs.dev/config/
export default defineConfig({
  plugins: [
    react(),
    {
      ...nodePolyfills({
        // To exclude specific polyfills, add them to this list.
        exclude: [
          "fs", // Excludes the polyfill for `fs` and `node:fs`.
        ],
        // Whether to polyfill specific globals.
        globals: {
          Buffer: true, // can also be 'build', 'dev', or false
          global: true,
          process: true,
        },
        // Whether to polyfill `node:` protocol imports.
        protocolImports: true,
      }),
      apply: "build",
    },
  ],
  define: {
    "process.env": {},
  },
});
```

./src/model.ts

```ts
import * as speech from "@tensorflow-models/speech-commands";

export async function load_model() {
  try {
    const recognizer = speech.create("BROWSER_FFT");
    await recognizer.ensureModelLoaded();
    const labels = recognizer.wordLabels();
    return { model: recognizer, labels };
  } catch (err) {
    console.log(err);
    return { model: null, labels: [] as string[] };
  }
}
```

Code

`./src/App.tsx`

https://gist.github.com/nnnpooh/88ae4e520fad0ad12582114cb0edca22#file-app-tsx