# Andrew Chang-DeWitt

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* [andrew-chang-dewitt.dev](https://andrew-chang-dewitt.dev)
* [github.com/andrew-chang-dewitt](https://github.com/andrew-chang-dewitt)

## Education

### Bachelor of Science in Computer Science

Illinois Institute of Technology
Chicago, IL
August 2024 - December 2025

### Associate in Engineering Science in Computer Science

Wilbur Wright College
Chicago, IL
August 2022 - May 2024

## Employment

### Undergraduate Research Assistantship

#### Research Assistant

exploreCSR @ Northwestern University March 2024—ongoing

Summary:

* Worked with Dr. Christos Dimoulas @ Northwestern & his team to assist with programming language research
* Assisted in the beginning stages of creating an LLM-based tool capable of generating test suites capable of capturing a high degree of possible bugs for a given software source
* Researched fuzzing techniques to use in tandem w/ LLM test generation to hopefully improve the generated tests

Skills:

* Racket
* AI
* LLM
* Software Testing
* Research
* Problem Solving

### Software Engineering Internship

#### Web Engineering Intern

Tinder (Match Group) June 2022—January 2023

Summary:

* Led implementation planning for & worked with a cross-disciplinary team including engineering, product, & design to develop a new feature shipped on Tinder’s web app in late Q3 of 2022, impacting tens of millions of users
* Participated in the code-review & release process as well as regular, informal Scrum ceremonies
* Assisted in migrating JavaScript typed in Flow to TypeScript across the application
* Improved the Web experience for tens of millions of users by identifying & shipping fixes for a11y & i18n bugs

Skills:

* React
* Redux
* Redux-saga
* TypeScript
* NodeJS
* git
* GitHub
* Project Planning
* Feature Design

### Web Development Internship

#### Assistant Web Master

Indiana University—Purdue University at Indianapolis August 2021—May 2022

Summary:

* Updated outdated .NET Razor views from Bootstrap/JQuery to Indiana University’s modern css framework, improving page load times
* Implemented additional features in HTML, CSS, & vanilla JS (or Vue, where applicable)
* Built dev tools in Python & TypeScript to automate data & file collection & formatting

Skills:

* .NET MVC
* Razor
* C#
* Python
* JavaScript
* TypeScript
* NodeJS
* Vue
* HTML
* CSS

### Department of Family Resources

#### State Eligibility Consultant

State of Indiana, Department of Family Resources June 2019—August 2020

#### Team Lead

Knowledge Services May 2018—June 2019

#### Eligibility Specialist

Conduent, Knowledge Services August 2016—May 2018

Summary:

* Assisted clients in solving problems in the cases/applications, correcting their benefit eligibility & advised them on complicated policies & processes
* Trained 12 new employees & worked with a team of experienced employees to improve their customer service, communication, & problem-solving skills by designing & hosting group training sessions in coordination with 1:1 mentoring
* Collaborated with local office & regional management to improve business processes for efficiency & accuracy, saving 90+ minutes/day when generating reports & assigning case loads

Skills:

* Leadership
* Coaching & mentorship
* Communication
* Project planning

## Experience

### Smoke

Links:

* [github.com/andrew-chang-dewitt/smoke](https://github.com/andrew-chang-dewitt/smoke)

Skills: Python, FastAPI, IOT devices, Analog input processing, Asynchronous programming, OOP

An IOT fan controller & thermometer using a Raspberry Pi Zero, an MCP3008 for reading thermistors as analog inputs, & a level-shifter for controlling a 12V PWM fan form the RPi’s 3.3V GPIO pins. Reads temperatures & responds accordingly to maintain a target temperature in a charcoal smoker. Currently implementing features to share status/temps/history & allow controlling the device via a local WiFi web server.

### Hoops

Links:

* [github.com/andrew-chang-dewitt/hoops-app](https://github.com/andrew-chang-dewitt/hoops-app)
* [github.com/andrew-chang-dewitt/hoops-api](https://github.com/andrew-chang-dewitt/hoops-api)

Skills: Rust, WASM, Leptos, Python, FastAPI, PostgreSQL, Unit testing, FP, OOP

A budgeting application to empower my wife & I to better organize our financial future; inspired by a favorite (now defunct) fintech product. Backend built with a RESTful API written in Python with FastAPI & PostgreSQL, with parts as needed in Rust with Axum. Intended to be consumed with frontend currently being written as an isomorphic web application using SSR & hydrating on the client with WASM using Rust & Leptos.

### JSpec

Links:

* [github.com/andrew-chang-dewitt/jspec](https://github.com/andrew-chang-dewitt/jspec)

Skills: Java, Unit testing, OOP, Data structures & algorithms, Library API design, CLI tooling

A Java testing library, test runner, & cli built as a class final project. Building this was a fun way to dive deeper into Java by utilizing Java’s powerful introspection & reflection capabilities to traverse objects & customize compilation output. JSpec was also a great excuse to practice data structures & algorithms by building a custom implementation of doubly linked lists & n-ary trees, complete with traversal algorithms & collection manipulation methods such as reduce(), map(), & forEach(); used for storing test result state before rendering.

### DB Wrapper & AMQP Worker

Links:

* [github.com/cheese-drawer/lib-python-db-wrapper](https://github.com/cheese-drawer/lib-python-db-wrapper)
* [github.com/cheese-drawer/lib-python-amqp-worker](https://github.com/cheese-drawer/lib-python-amqp-worker)

Skills: Python, PostgreSQL, AMQP 0-9-1, Unit testing, OOP, Type systems & static typing, Library API design, Microservices, Data modeling & validation

A pair of async, typesafe libraries intended to be used in a microservice-based & Docker-orchestrated implementation of Hoops (which has since pivoted to a monolithic backend). First is an ORM & db connection/query library driven by Psycopg2 with runtime type validation in an intuitive API. Second is a library for building services that communicate over AMQP with a simple, Flask-like API.