Tiger Ding

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Education

University of Waterloo | *Bachelor of Computer Science* — *Waterloo, ON | Sep 2023 – Apr 2028*

- **3.94**/4.0 GPA; **Computer Science Club** advisor; **Grand River Trading** member.

Skills

- **Languages:** C, C++, JS/TS, HTML/CSS, Java, Python (Pandas, sklearn, Numpy, SciPy), Rust, SQL
- **Technologies:** NextJS, ReactJS, LLVM, Linux, AWS (Elastic Beanstalk, EC2, S3, Route 53), GH Actions, Prisma, Figma
- **Tools:** Blender, Git, Bash, AWS CLI, (Neo)Vim, Ngrok, Postman, GitHub

Experiences

DOZR | *Product Support Engineer* — *Kitchener, ON | May 2024 – Aug 2024*

`NodeJS, Rest API, NoSQL, ReactJS, ClickUp, Kubernetes, Postman, Ngrok`

- Dealt with legacy **JS** codebase and implemented "delete notes" feature to be used by >**70** sales reps by adding **NoSQL** data-warehouse **NodeJS API** endpoints with **ReactJS** front-end, reducing confusion amongst sales.
- Developed a **NodeJS microservice** to create and update **ClickUp** ticket statistic in real-time to **MongoDB NoSQL** data warehouse, rigorously tested with **ngrok** and **Postman** using live data.
- Automated aggregation and analysis of ticket statistics with a **NodeJS** script by querying from **NoSQL** data warehouse, generating sprint tickets **Excel** report and graphs to aid evaluation of sprint performance.

SlimeScholars | *DevOps Engineer* — *Waterloo, ON | Oct 2023 – Apr 2024*

`GitHub Actions, AWS (Elastic Beanstalk, S3, EC2, Route53, IAM), NextJS`

- Migrated full-stack education web app from **Vercel** to **AWS**, achieving **4 nines** uptime.
- Utilized **AWS Elastic Beanstalk, S3, EC2** services to decrease website load times by using autoscaling groups and geolocation routing policies, increasing learning material availability for students.
- Decreased **GitHub Actions** + **AWS** update time from 20 minutes to <**5 minutes**, reducing Elastic Beanstalk environment downtime from 15 minutes to **33 seconds** with only a 38% NextJS prod bundle size increase.

Projects

Tiny-Pixels Engine | `C++, Git`

- Built a **C++** graphics compositing library from scratch featuring cropping, tonal correction, HSV adjustment, color matrix, histogram, etc., using no external libraries except for font and image I/O.
- Enabled convolution operations via **Fast Fourier Transform** using Gentleman-Sande and Cooley-Tukey algorithms, supporting effects such as Gaussian blur and embossing, enhancing library speed and versatility.
- Implemented **Bézier** and **B-Splines** for one-dimensional interpolation of RGB curves and color ramp functions, providing finer control over curves and yielding more desirable editing results.
- Included **Perlin noise** and **white noise** generator, providing capabilities for creating procedural natural textures, overlay masking options, thus enabling more freedom and empowerment for end-users.

Box of 𝒬uestions | `TS, NextJS, PostgreSQL, Supabase, Prisma, Figma`

- Built a **NextJS** based full-stack mobile-oriented web app that facilitates anonymous question answering.
- Drove repeat visits and ensured seamless experience by implementing **session cookies** for auto-login and building user authentication from scratch, using **SHA256** password hashing with a **PostgreSQL** database.
- Boosted app exposure and engagement by creating a feature that generates personalized QR code images with decorative elements using **Canvas**, linking to users' question submission pages to drive referrals.
- Improved user retention and satisfaction by adding localization support and adaptive layouts for English and Chinese, ensuring persistent accessibility across shared content and expanding the user base.

Awards

Citadel US Spring Invitational Datathon Participant — *Apr 2024*

Canadian Mathematical Olympiads (1 of 77 invited in Canada) — *Apr 2023*

Canadian Computing Competition (Senior) Distinction (Top 20%) — *Feb 2023*

Canadian Senior Mathematics Competition Honor Roll (62nd out of 13,372) — *Nov 2022*