# Andrew Xing

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**University of Waterloo** – BSc Computer Engineering 2022

## Forethought AI – San Francisco
Backend Software Engineer II – Core Services                                         Sep 2021 – Oct 2023

- Primary point of contact in data ETL pipeline, indexing 10 million CRM objects into ElasticSearch every day, supporting the backbone of Forethought's product suite
- Decoupled pipeline into modularized components by implementing data staging checkpoints using AWS S3 and SQS, improving data-pull reliability and reducing ingestion error rate by 50%
- Designed and maintained horizontally scalable data processing workers in Python, tracking state in Redis and MongoDB, improving performance by 20x
- Led standardization of client data in mongo, spanning 1 billion rows and 300 tables, while directing a zero-downtime migration with dual writing and primary-key chunking
- Architected envelope encryption system with AWS key management system and Mongo client-side field level encryption to securely store customer credentials
- Key contributor to a metrics platform that streams 2.5M tracking events per day from AWS Kinesis to Amplitude
- Implemented a unified Python API for knowledge bases spanning 30 unique REST and GraphQL integrations

## Ubisoft – Toronto
Software Engineering Intern – Tools                                                  Jan 2020 – Jan 2021

- Launched automated database snapshots for an unstable ElasticSearch instance storing CI/CD metrics, successfully recovering database from corruption one month after release
- Developed C# library and macros for streamlined game setup and installation on Xbox, Playstation, and Stadia, reducing deploy time by 5 minutes
- Introduced automated integration testing running on code submission for the world-editor in Ranorex Studio, used by over five thousand artists and developers
- Improved custom Python plugins for artist and 3d modelling programs like 3dsMax, Maya, and Substance Painter
- Added telemetry and tracking to C++ clothing-based physics library to provide insight on game crashing bugs

## Dye and Durham – Toronto
Software Engineering Intern – Full Stack                                             Sep 2018 – Dec 2018

- Spearheaded effort to wrap existing products in C# REST API layer, allowing larger clients to purchase services in bulk
- Explored solutions to migrate TFS version control to GitHub and automate build and deployment process with Azure

## JSI Telecom – Ottawa
Software Engineer Intern                                                             Jan 2018 – Apr 2018

- Created custom solution for client, improving SQL datagrid performance by implementing lazy loading on Dapper, improving initial server load time from 30 seconds to instant
- Rearchitected major datagrid functions including filtering, sorting, exporting, and data insertion from legacy Delphi code to reusable components with C# in an MVVM pattern

# Skills

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|---|---|
| **Languages** | Python, C# |
| **Technologies** | AWS, Kubernetes, PostgreSQL, Mongo, Redis, ElasticSearch, Kibana, Prometheus, Grafana, Retool, FastAPI |
| Misc. | Digital Art, Minecraft, Basketball |