Nicolas Cao

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EDUCATION

University of California, Irvine **06/2023**
Bachelor of Infomatics *Irvine, California*
- **Honors:** Recent 4 quarter's Dean's Honor List

TECHNICAL SKILLS

- **Programming languages:** Python, SQL, HTML, CSS, Javascript, Java, JSON, XML.
  - **Frameworks:** Django, Scrapyd, Angular, React, Vue, Flask, Rest api
  - **Database:** MySQL, Redis, ES, Mongodb
  - **Machine Learning:** Master Machine Learning methods, such as Hypothesis Testing, Logical Regression, Decision Tree, Random Forest, etc.
  - **Data analystics:** PandasNumpy, Matplotlib
  - **Systems:** Windows, Database Management System, Amazon Web Services (AWS)
  - **Software:** Office 365, MySQL workbench
  - **Version Control:** Git, GitHub
  - **Language skills:** English (Fluent), Mandarin (native)

PROFESSIONAL EXPERIENCE

Zoom Video Communications -- Client Development Internship **07/2021-08/2021**
- Completed their work flow in the project under the guidance of a mentor, supported project takeover, allocation, scheduling, and other work.
- Developed an implementation plan, completed functional planning and page development in a Windows environment, and wrote high-quality code to ensure compliance with specifications, reduced redundant code by 10%.
- Utilized HTML and Java to develop, debug and maintain product functions to optimize application performance, improved efficiency by 15%.
- Conducted functional testing before the launch of the client, modified client running bugs to achieve product iteration, reduced error rate under 20%

Shenzhen Sunline Tech Co | Shenzhen, Guangdong Province -- Internal Client Development Internship **03/2021-04/2021**
- Collaborated with various departments to carry out marketing and project management to develop new ideas, initiatives, products, and services.
- Developed Python regression testing scripts for the data quality tool; increased testing efficiency by 60%
- Completed the design and development of information timing sending components according to business requirements. Selected specific members or groups to send timed messages in the Instant Messaging System to help each employee reduce the time of switching additional software by at least 10 minutes every day, which greatly improved the efficiency of sending and receiving.
- Understood and analyze business requirements to determine the technical architecture and roadmap of a project or product.
- Divided basic software functional modules, used development techniques such as JavaScript, Java, Python to develop components.
- Improved the overall code structure through algorithm application to accelerate the running speed of search and crawling by 15%, reduce space usage by 22%.

CORE PROJECT

VICO Infrastructure Co., Ltd. Facility Management System Development Project (Collaborative Project at UCI) **01/2023-06/2023**
Back-end Developer/Data Analyst (project cycle: 6-month)
- **Project Background:** Collaborate with the team to develop a facility management system, including facility entry, analysis, cost calculation, etc.
- **Key contents:**
  - Led the server-side research and development of products, explored and analyzed business requirements to write technical solutions.
  - Designed and coded the system according to product requirements; Deeply understood various design patterns and application scenarios, and applied Python to complete back-end function development.
  - Completed the design, optimization, and debugging of the MySQL database, ensuring data integrity and high availability.
  - Utilized XML and JSON data to parse network requests, etc., saved the team a lot of time.
  - Responsible for the entire process from user research to UX/UI design, designing multiple interfaces and prototypes for functional displays.

Search Engine Build **04/2023-06/2023**
algorithm Developer (project cycle: 3-month)
- **Project Background:** Build a search engine **from scratch**, including website crawling, tokenizing and searching algorithm.
- **Key contents:**
  - The search engine built from scratch, using **python** as the main language.
  - Crawled and included more than **70,000** websites. Use the **hash algorithm** website fingerprint to effectively **avoid trap websites and duplicate websites**.
  - Extract website information, construct a **self-created** search algorithm, and complete website information retrieval with **tf-idf** and **cosin similarity**.
  - High-performance search speed, able to search all content within **200** milliseconds. The average single search time is usually **25** milliseconds.

Geometry-Discovery-Project (Collaborative Project at UCI) **09/2022-01/2023**
Front-end Developer/Vue Developer (project cycle: 4-month) **https://gdp.math.uci.edu/#/**
- **Project Background:** This site is a site that helps people learn geometry theory
- **Key contents:**
  - Create dynamic images using HTML and Vue to help explain the theory of geometric content.
  - Collaborated with back-end engineers to complete product data exchange and dynamic information presentation. Users can use the mouse to drag an image to change the configuration of geometric objects in the image.
  - Optimized the front-end architecture to improve the flexibility and scalability of the system.
  - Supported the implementation of various pages in products and projects, designed and developed efficient and reusable UI components.
  - Resolved project related issues and complete page architecture optimization to ensure system stability.