

# CHANG ZENG

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## EDUCATION

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UNIVERSITY OF MASSACHUSETTS AMHERST <i>Mater of Science, Major in Computer Science, Bays State Fellow</i>	Amherst, MA, 2022-Present 3.895 GPA
UNIVERSITY OF MASSACHUSETTS AMHERST <i>Bachelor of Science, Major in Computer Science; Major in Environmental Science</i>	Amherst, MA, 2018-2022 3.832 GPA

## TECHNICAL SKILL

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- **Programming Languages:** Python, Go, C#, HTML, CSS, XAML, TypeScript, JavaScript, C++
- **Library & Framework:** TensorFlow, PyTorch, NumPy, Pandas, Docker, OpenCV
- **Tools:** Git, Kubernetes, Docker, Kubernetes, AWS S3, Bash, Conda, Unix/Linux, Node.js, PostgreSQL

## WORK EXPERIENCE

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X-CAMP TECH TEAM INTERN <b>Software Engineer - Full-Stack (Go, Git, Test&amp;Debug, CI/CD, Kubernetes, Docker)</b>	Amherst, MA 2023-Present
<ul style="list-style-type: none"><li>• Designed and developed a <b>scalable architecture</b> using <b>Golang</b> to seamlessly integrate Zoom API functionalities into existing systems, resulting in improved teaching and learning experience.</li><li>• Utilized an automated <b>CI/CD</b> workflow for building and deploying to a remote <b>Kubernetes</b> cluster, facilitating seamless service scaling and management in a <b>containerized</b> environment.</li></ul>	

## PROJECT EXPERIENCE

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AUTOENCODER OPTIMIZATION <b>Software Engineer - Back-End (Python, Deep Learning, MLP, CNN, RNN)</b>	Amherst, MA 2022-2023
<ul style="list-style-type: none"><li>• Developed an <b>autoencoder</b> with a <b>backpropagation</b> mechanism to effectively denoise individual heartbeats from electrocardiogram signals, enhancing signal quality and accuracy.</li><li>• Performed a comprehensive comparison between linear and non-linear structures, including <b>CNN</b> and <b>RNN</b>, to evaluate their performance in optimizing the denoising process.</li><li>• Employed academic research methodologies to methodically <b>fine-tune</b> autoencoder model parameters, incorporating strategies like <b>scheduled learning rate</b> adjustments and varied <b>layer structures</b>, resulting in elevated denoising capabilities and heightened accuracy.</li></ul>	
WUHUU INFORMATION SHARING PLATFORM <b>Software Engineer - Back-End (Python, Crawler, AWS S3)</b>	Amherst, MA 2022-2023
<ul style="list-style-type: none"><li>• Developed customized <b>crawlers</b> utilizing Python to systematically gather data from social platforms, focusing on user engagement trends, content popularity, and sentiment analysis.</li><li>• Implemented a robust storage infrastructure using <b>AWS S3</b> to securely store and retrieve shared files, while optimizing data retrieval and minimizing latency.</li></ul>	
EYE ACTIVITY TRACKING <b>Software Engineer - Full-Stack (Python, Machine Learning, OpenCV, CUDA)</b>	Amherst, MA 2022-2022
<ul style="list-style-type: none"><li>• Employed various machine learning models, including the <b>BERT transformer (TensorFlow)</b>, along with advanced techniques such as <b>random forests</b> and <b>stratified k-fold</b>, to accurately classify eye behavior patterns.</li><li>• Utilized <b>OpenCV</b> libraries to capture and process live camera feed in real-time, extracting relevant features from the eye images, such as pupil dilation and eye movement, to analyze and determine the user's eye activity.</li></ul>	