



# Computer Vision Software Engineer

## JOB OUTLOOK<sup>2</sup>

Employment of general software developers and engineers is expected to grow much faster than the average for all occupations. Specifically, the computer vision field is growing quickly due to increasing demand for digital systems that control self-driving vehicles, facial recognition applications, augmented reality experiences, and medical imaging devices.

## SALARY RANGE<sup>3</sup>

\$82,000 – \$191,000

## WHO ARE THEY?<sup>1,2</sup>

Computer vision is a specialized field of computer science that involves the design and development of digital devices that can imitate human sight, understand objects that are in front of them, and act accordingly to meet the needs of users for a variety of applications. Some of the best-known uses of computer vision technology include self-driving cars and facial recognition on smart phones.

Computer vision engineers are creative, analytical problem solvers who assist with the creation of digital applications that involve computer vision technology. They have the ability to analyze the needs of users, as well as the creativity and problem-solving skills to design cost-effective software programs to meet these needs. Computer vision engineers are detail-oriented professionals who can work on different components of an application and ensure those parts work well together. They have interpersonal and communication skills for collaborating with colleagues and explaining how products work to customer support and sales specialists.

## WHAT DO THEY DO?<sup>3</sup>

Computer vision software engineers analyze users' computer-vision related needs and collaborate with other engineers and product managers to formulate product feasibility estimates. They then plan, test, and develop computer-vision algorithms, or instructions, for creating computer programs that meet those needs. They design components of devices that use computer-vision technology and make sure these components work well together. Although computer-vision software engineers often work closely with computer programmers, many write code themselves. They conduct tests to debug, or identify and eliminate defects from the programs and products they design. Finally, they answer questions which come from sales and customer support professionals to ensure the satisfaction of users of computer-vision applications.



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## EDUCATION/ TRAINING<sup>3</sup>

- Bachelor's or Master's degree in Computer Science or Electrical Engineering.
- Experience with coding, including proficiency with common C++ and C programming languages.

## HOW DO I BECOME ONE?

Computer vision software engineers typically need at least a bachelor's degree in computer science, software engineering, or a related field. Many positions also require a master's degree. They need to develop a strong background in computer programming, or coding, as well as experience in the industry in which they work. For example, computer vision software engineers who work on smart phones need a background in digital imaging and camera development.

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<sup>1</sup> "What is Computer Vision and How Does It Work? An Introduction." Adobe Xd Ideas Magazine. <https://xd.adobe.com/ideas/principles/emerging-technology/what-is-computer-vision-how-does-it-work/>.

<sup>2</sup> "Computer Vision Market to Reach \$48.6 Billion by 2022." Bit Refine Group, Data Science Consulting and Research. <https://bitrefine.group/11-blog/120-establishing-your-brand-on-college-campuses>.

<sup>3</sup> "Software Developers." BLS Occupational Outlook Handbook. <https://www.bls.gov/ooh/computer-and-information-technology/software-developers.htm#tab-1>.

<sup>4</sup> "Computer Vision Software Engineer Salaries." Glassdoor. [https://www.glassdoor.com/Salaries/computer-vision-software-engineer-salary-SRCH\\_K00.33.htm](https://www.glassdoor.com/Salaries/computer-vision-software-engineer-salary-SRCH_K00.33.htm).