COMPUTER VISION GRADUATE CREDIT CERTIFICATE PROGRAM

Person-in-Charge	Raghu Sangwan
Program Code	MAICV
Campus(es)	Great Valley
	World Campus

The Computer Vision Graduate Certificate prepares students for working as a CV Engineer responsible to analyze, identify, architect, design, and implement computer vision based systems. Students master the following skill set essential to this industry role:

- Identifying computer vision tasks
- Framing machine vision problems (image classification, objective detection, image segmentation, activity detection, etc.)
- Designing computer vision pipelines to collect and preprocess images and videos
- Building and evaluating computer vision models based on deep neural networks and statistical machine learning techniques
- Deploying computer vision models on cloud-based infrastructure, servers, and embedded devices

Courses taken in the certificate program may be applied toward a master's degree in Artificial Intelligence, subject to restrictions outlined in GCAC-309 Transfer Credit (https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/gcac-309-transfer-credit/). Certificate students who wish to have certificate courses applied towards a graduate degree must apply and be admitted to that degree program. Admission to the graduate degree program is a separate step and is not guaranteed.

Effective Semester: Spring 2024
Expiration Semester: Spring 2029

Admission Requirements

Applicants apply for admission to the program via the Graduate School application for admission (https://gradschool.psu.edu/graduate-admissions/how-to-apply/). Requirements listed here are in addition to Graduate Council policies listed under GCAC-300 Admissions Policies (https://gradschool.psu.edu/graduate-education-policies/). International applicants may be required to satisfy an English proficiency requirement; see GCAC-305 Admission Requirements for International Students (https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/gcac-305-admission-requirements-international-students/) for more information.

1. The successful applicant is generally expected to have a minimum combined junior/senior grade-point average of 3.0 (B) on a 4.0 scale.
2. Courses taken in the certificate program may be applied toward Master of Software Engineering degree, subject to restrictions outlined in GCAC-309 Transfer Credit (https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/gcac-309-transfer-credit/). Certificate students who wish to have certificate courses applied towards the Master of Software Engineering must apply and be admitted to that degree program. Admission to the Master of

Software Engineering graduate degree program is a separate step and is not guaranteed.

Certificate Requirements

Requirements listed here are in addition to requirements listed in Graduate Council policy GCAC-212 Postbaccalaureate Credit Certificate Programs (https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-200/gcac-212-postbaccalaureate-credit-certificate-programs/).

Code	Title	Credits
Required Courses		
DAAN 871	Data Visualization	3
A-I/DAAN 572	Reinforcement Learning	3
A-I 879	Machine Vision	3
Total Credits		**9**

All courses must be completed with a minimum grade of C or better and an overall GPA of 3.0.

Courses

Graduate courses carry numbers from 500 to 699 and 800 to 899. Advanced undergraduate courses numbered between 400 and 499 may be used to meet some graduate degree requirements when taken by graduate students. Courses below the 400 level may not. A graduate student may register for or audit these courses in order to make up deficiencies or to fill in gaps in previous education but not to meet requirements for an advanced degree.

Learning Outcomes

1. **KNOW** - Demonstrate proficiency in mastering foundational concepts in computer vision.
2. **APPLY/CREATE** - Demonstrate mastery of concepts and methods for modeling, designing, developing, and testing computer vision applications.

Contact

Campus	Great Valley
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